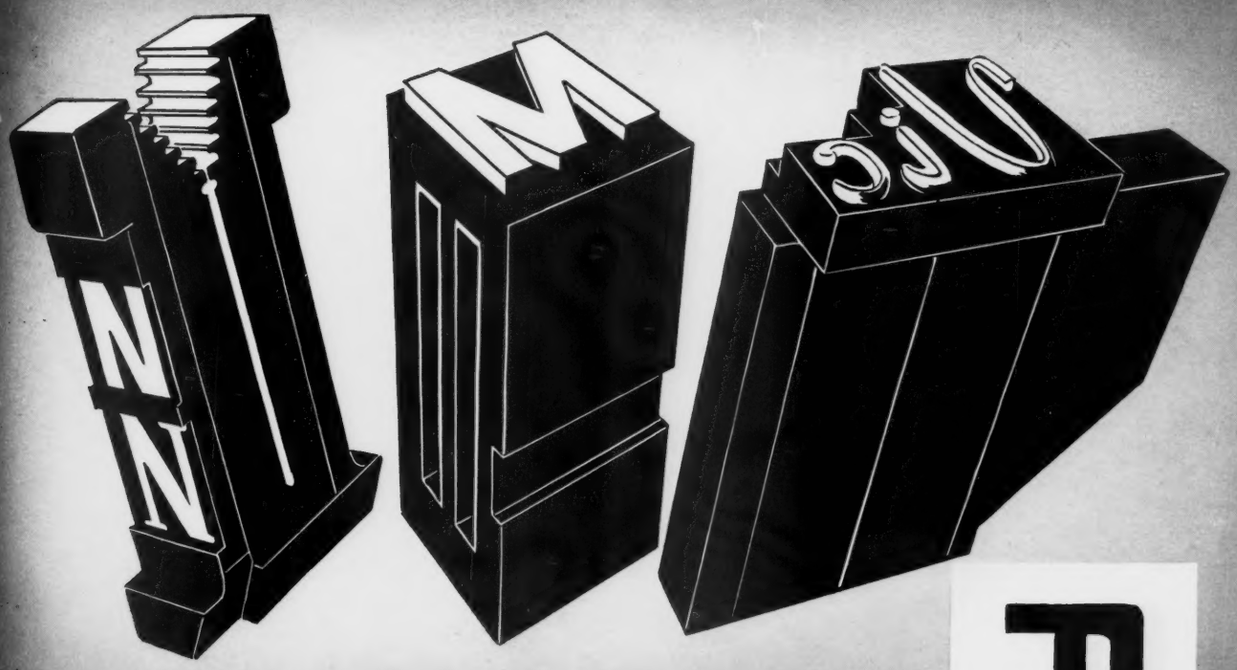
PRINTING EQUIPMENT ENGINEER



JUNE 1938

TECHNICAL PUBLICATION FOR PRODUCTION AND
ECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

Mechanical Men–

IT'S UP TO YOU

Probably more than ever before, publishers are depending on their mechanical executives to help solve cost problems. If profits are to be made, composing-rooms must operate at peak efficiency. This cannot be accomplished with obsolete equipment.

Modernization is imperative. But modernization must be attained carefully, intelligently. Equipment purchases must be investments. They can be investments ONLY when new machinery pays its own way in added production, increased efficiency.

The manufacturers of Blue Streak Linotypes make this suggestion with absolute confidence backed by the records of Blue Streak users.

If you're attending the ANPA Mechanical Conference at Toronto, ask the men who have modernized with Blue Streak Linotypes—there will be plenty of users present. And above all, inspect minutely the new Blue Streak Master Models—1938's achievement in composing-room efficiency.

MERGENTHALER LINOTYPE COMPANY

LINOTYPE BLUE STREAK

MASTER MODEL 32 Newest members of the Blue Streak family are the Master Models 31 and 32, successors to Models 8 and 14.

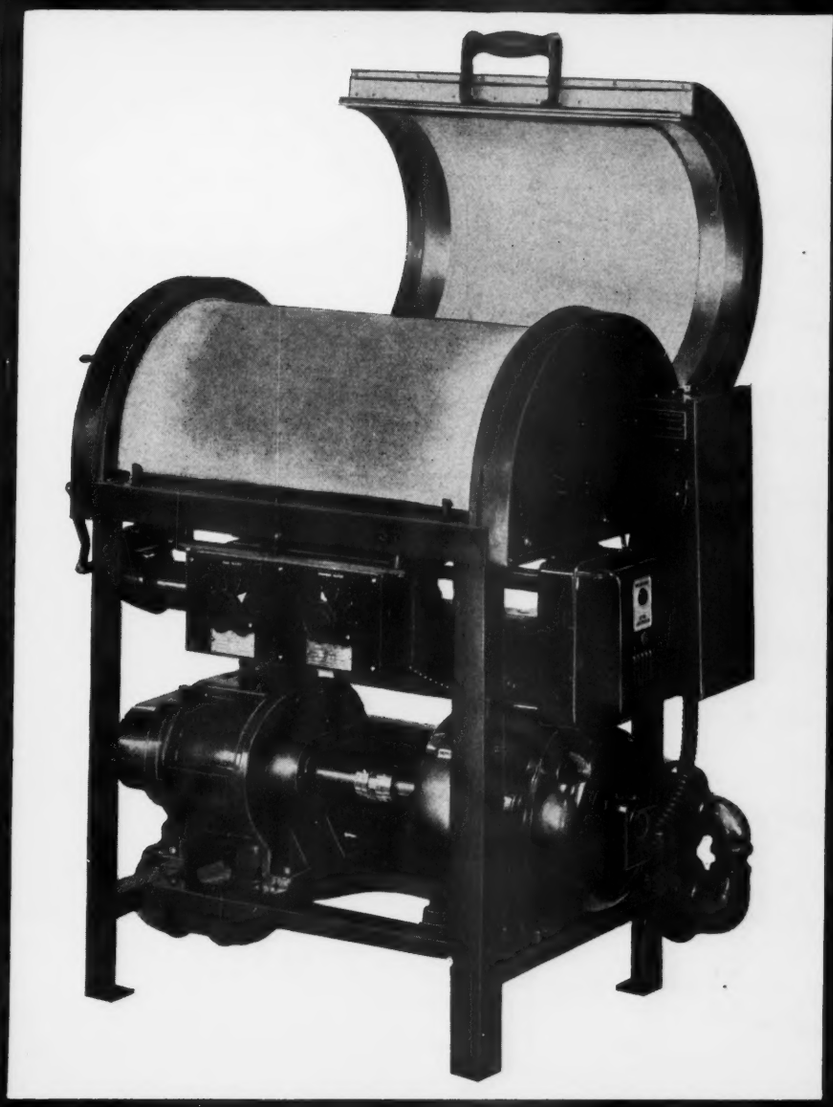
Pictured is the 2-in-1 Model 32 equipped with eight magazines, four main and four auxiliary. The main magazine bank may contain various combinations of 72-channel display and 90-channel text magazines. The arrangements are readily changeable with keyrod mechanism automatically controlled by the Channel Chooser setting.

Magazine changes are made quickly and easily by in-built mechanism which permits all lifts to be made in the safe, natural, VERTICAL position. The famous One-Turn Shift brings any magazine to operating position in an instant.

All Master Models may be equipped with Linotype Self-Quadder as well as Automatic Fixed Indention.

A-P-L and Linotype Bodoni Bold, Bodoni Book and Poster Bodoni

NO INTERRUPTIONS WITH THE AUTOFORMER



The Autoformer swings right along on a time schedule basis, with speedy, automatic operation. Set for dry-mats with moisture content for minimum or maximum shrinkages, the casting levels are always Uniform. • The astonishing "Vacuum-Forming" Units of The Autoformer are precise in effecting true casting levels, which are permanently fixed in dry-mats, by the controlled electric baking units. • This means the pressman can reach the entire printing surface of the plate, reflecting better and sharper printing without maximum impression.

STA-HI • INC.

CHICAGO, ILLINOIS
538 So. Clark Street

LOS ANGELES, CAL.
1020 Crocker Street

PORTLAND, OREGON
417 Oregonian Building

TULSA WORLD
SPORTS
The Pittsburgh Press
San Antonio Express
CLEVELAND NEWS
The Charlotte Observer
Chattanooga Daily Times
THE HOUSTON CHRONICLE
The Tulsa Tribune
THE INDIANAPOLIS STAR
San Angelo Standard-Times
The Columbus Citizen
The Buffalo Times
St. Paul Dispatch
THE MINNEAPOLIS STAR
The Northwest's Largest Evening Newspaper
KANSAS CITY JOURNAL-POST
An Independent Newspaper
TOLEDO BLADE
FINAL HOME
SAN ANTONIO EVENING NEWS
The Wichita Eagle
THE INDIANAPOLIS NEWS
THE KANSAS CITY STAR.
THE DALLAS DISPATCH
The Detroit News
(THE Morning KANSAS CITY STAR)
The Kansas City Times.
CLEVELAND PLAIN DEALER
The Sioux City Journal
CROSS SECTION
THESE well-known newspapers are only a few of hundreds in every section of the country that have found that Goodyear Printers' Supplies print better, last longer, require fewer changes and adjustments under any operating and climatic conditions, and save money. If you are interested in quality presswork at lowest cost, profit by their experience and investigate press-proved Goodyear blankets, rollers and cutting rubbers. For full information write Goodyear, Akron, Ohio, or Los Angeles, California.
Branches in all principal cities
THE GREATEST NAME IN RUBBER
GOODYEAR
MORE NEWSPAPERS ARE PRINTED ON GOODYEAR UNDERBLANKETS THAN ON ANY OTHER KIND

Printing Equipment Engineer

Trade-Mark Registered U. S. Pat. Office

June, 1938

Volume 56 No. 3

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A Monthly Publication

ESTABLISHED 1910

Member of Controlled Circulation Audit

CCA

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Western Manager:
E. P. BLOOMSTER, 232 E. ERIE STREET, CHICAGO. PHONE SUPERIOR 2444.

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A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

Published by Don Will • Edited by Mac Sinclair

Associate Editor: Adam Henri Reiser

Plastic Binding U. S. Patent No. 1970285, License No. 9, The Brooks Company, Cleveland, Ohio.

Printed in U. S. A.

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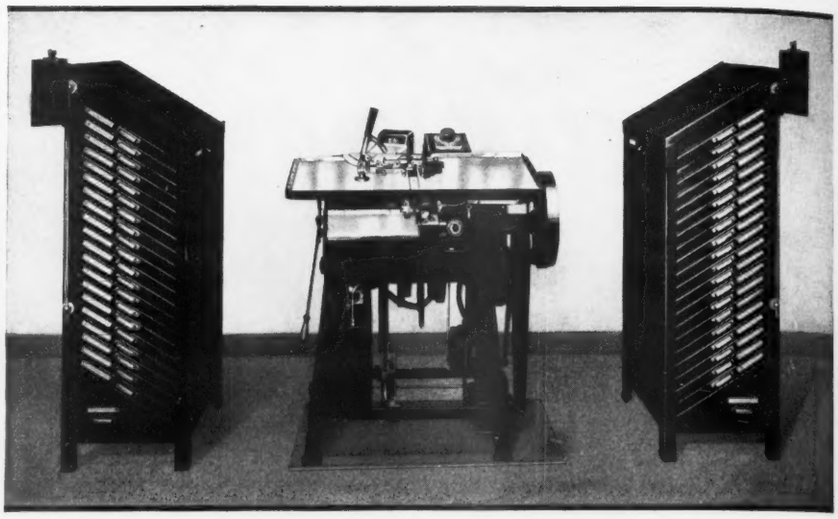
. . . More Efficient Production with LUDLOW

The Ludlow is mighty important to the mechanical executive interested in efficiency and dependability in the production of display composition.

To the executive as yet operating without the Ludlow, it offers an opportunity to make noteworthy savings in operating expense which cannot fail, in these days, to prove highly agreeable to the publisher or the business office desiring to cut costs.



To the executive with Ludlow equipment properly maintained, it affords a sense of satisfaction that he is saving many unnecessary operations which would be required by the use of a single-type system of display.

Just recall these points of special importance: the simplicity of Ludlow operation and mechanism, an unlimited type supply in sizes from 6 to 72-pt. —roman, italic and script—always available without preparatory expense for sorts casting or type replenishment, the convenience of all-slug make-up, and composition that stands up under dry-mat rolling pressure.

Visit the Ludlow working exhibit at the A. N. P. A. Mechanical Conference to be held at Royal York Hotel, Toronto, June 6-7-8

Type Storage Is Eliminated
36-Point Ludlow Coronet

A Ludlow Script Design
36-Point Ludlow Coronet Bold

New Type for Every Ad
24-Point Ludlow Karnak Intermediate

Eye-Arresting Display
24-Point Ludlow Karnak Black

Powerful New Italic
24-Point Ludlow Karnak Black Italic

Good Face for Newspaper Heads
24-Point Ludlow Karnak Black Condensed

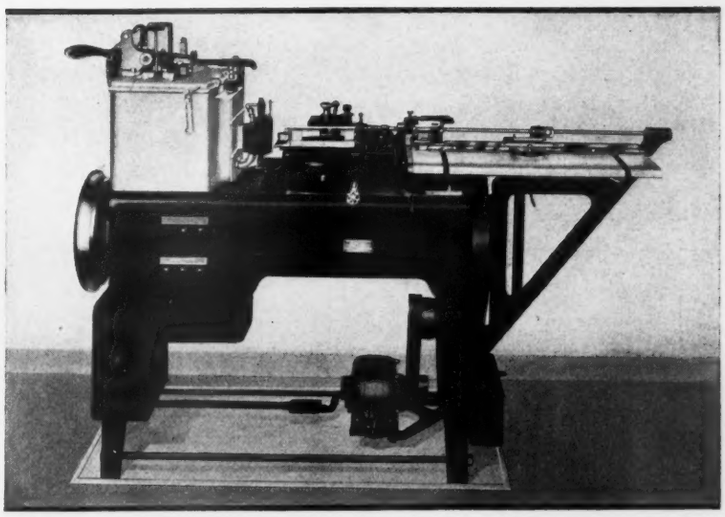
Attractive New Ludlow Typefaces
30-Point Ludlow Bodoni Campanile

LUDLOW TYPOGRAPH COMPANY

Set in members of the Ludlow Karnak family

2032 Clybourn Avenue + + + Chicago, Illinois

. . . More Efficient Production with ELROD



The composing room of a daily newspaper needs so much strip material to enable its compositors to work efficiently, that the sensible way of providing a generous supply of leads, slugs, rule and base is to operate a strip-casting machine on its own composing room floor.

Investigation will show that the most economical and efficient strip-caster is the Elrod. With this single machine can be produced strip in all heights and from 1-point to 36-points in thickness.

Mechanically, the Elrod is simplicity itself, and its operation is correspondingly simple. The Elrod requires the minimum of attention from an operator.

But, more important yet, the Elrod produces strip material of the highest quality, uniform in height and thickness, and of great solidity, enabling it to sustain the severe pressure of mat-rolling or printing. The illustrations below attest to its freedom from brittle breaks or welds.

The 36-point base, with body hollowed to reduce metal poundage, provides an ideal base for halftones and zincs. Many of the largest newspapers, which place emphasis on the printing of illustrations, depend exclusively upon Elrod base that stands up under the extraordinary pressure applied in their mat-rolling.

With an Elrod, it is easy and economical to provide a supply of strip material so generous that the compositor will find what he needs, ready at hand, whenever he reaches for it. Such ample provision eliminates much costly time lost in searching for needed material.

Original investment is modest and operating cost low. Ask us today for all the facts regarding the dependable, efficient and economical Elrod strip-casting machine.

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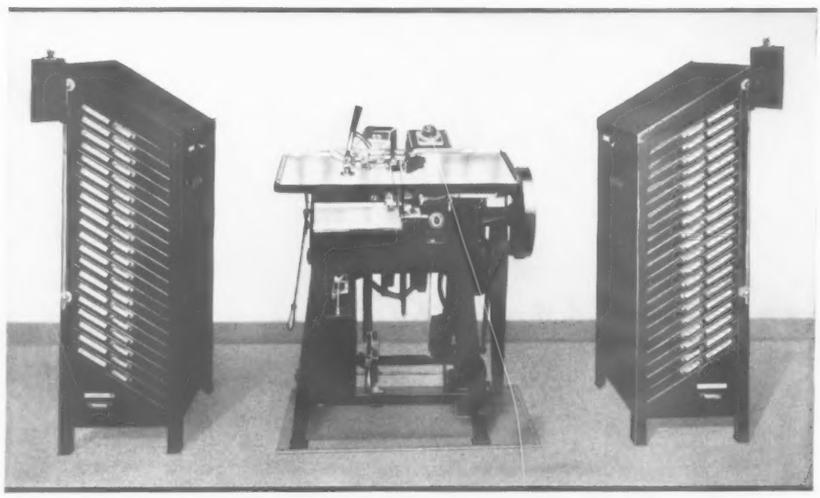

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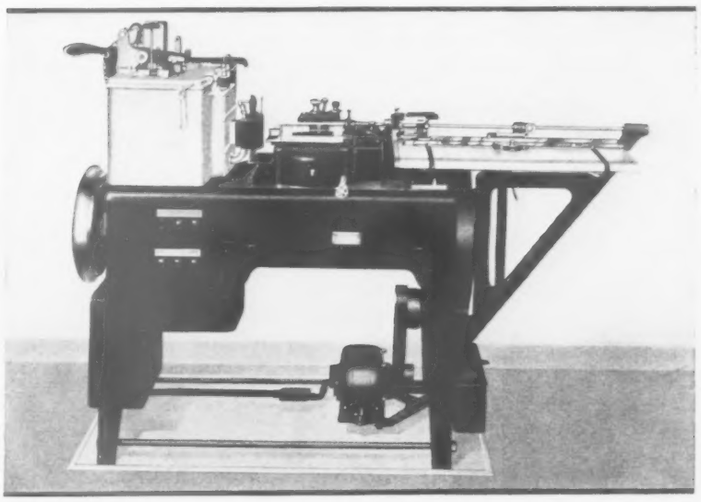

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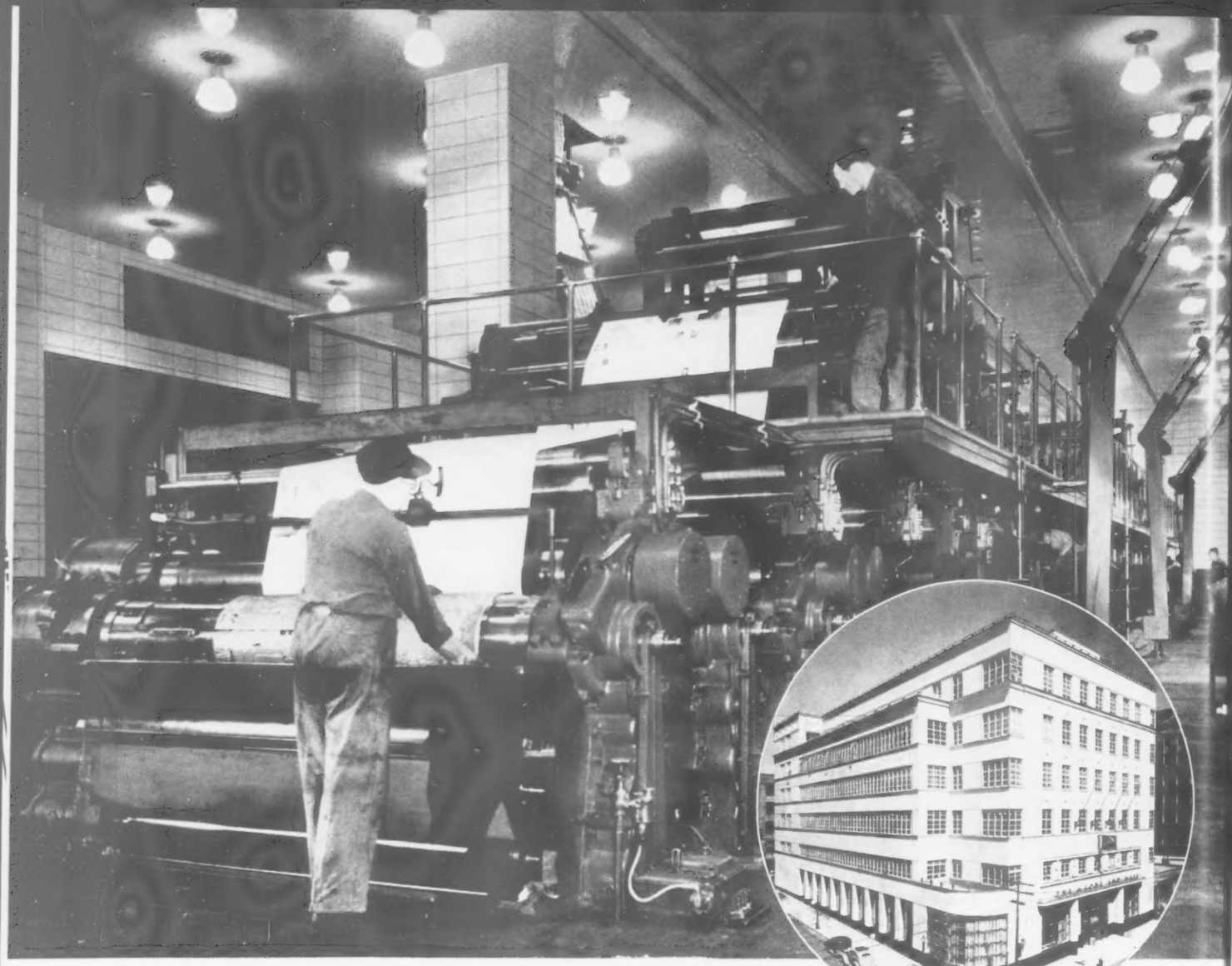


These 12 new Hoe Super Production Press Units installed by The Toronto Globe and Mail are equipped 100% with Goodrich Printers' Rollers.

Combining beauty with modern design and equipment, The William H. Wright Building, new home of The Toronto Globe and Mail is considered one of the finest newspaper plants in North America.

Toronto Globe and Mail Steps Up Printing Quality with Goodrich Rollers

THEY wanted clearer printing and faster production—so they specified Goodrich Printers' Rollers 100% for their twelve new press units, despite the fact that they had never used them before.

What prompted this choice by The Toronto Globe and Mail? Scores of reports obtained from other modern newspaper plants throughout Canada and the United States which told them of the long, trouble-free performance Goodrich had given these users.

The smooth, uniform surface of Goodrich Rollers produces printing which is sharp and clear. Temperature changes have no effect on these rollers and the fact that they shed paper dust and ink grit eliminates costly interruptions for wash-up and resetting. Use of special compounds makes for long roller life and an occasional regrinding maintains their highly-polished surface.

Recognition of the extra value offered by Goodrich Rollers may be found in the hundreds of pressrooms throughout the country where this product is used exclusively. A visit to a few of these nearby plants will quickly convince you of their superiority both as to the quality of printing they produce and the economy of their operation. A list of these users in your territory can be obtained by writing Niles & Nelson, Inc., New York.

NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
75 West Street, New York · 400 West Madison Street, Chicago, Ill.

Goodrich *Printers'* Rollers

GOSS KEEPS MOVING AHEAD!

1938 Record to Date . .

15 Major Installations
(COMPLETED OR IN PROGRESS)

TOTAL:
61 High Speed Anti-Friction Units
1 High Speed Double Octuple Press
18 Gravure Units
16-Cylinder Color Press
4 Magazine Presses

★ During the first six months of this year, the preference for Goss engineering has been pronounced by publishers throughout the world. Three continents are represented. Of the 15 major installations, 11 are in the United States, 2 in Australia, 1 in Canada, and 1 in Argentina. This includes equipment for newspaper, rotogravure, multi-color, and magazine work.

The continued acceptance of Goss principles of design confirms the fact that Goss engineering is sound, practical — *advanced!* It indicates advantages in operating efficiency that add to the quality and economy of production. It demonstrates the confidence of those who have placed initial orders and the satisfaction of users who are adding more units to their present Goss equipment.

There are many reasons why. Appoint yourself a "committee of one" to make a thorough investigation and report at the next mechanical conference in your own organization. Ask the Goss Research and Engineering Department for full facts and figures, production records, and specific information on any problem.

The following Goss installations have been ordered or completed since January 1, 1938:

Tribune, Chicago, Ill. . . . 7 High Speed Anti-Friction units, 1 pair of folders; 16-Cylinder Color Press, 1 pair of folders.

News, New York City . . . 8 High Speed Anti-Friction Units, 2 pairs of folders.

News, Buffalo, N. Y. . . . 8 High Speed Anti-Friction Units, 2 pairs of folders.

Star, Peoria, Ill. . . . 6 High Speed Anti-Friction Units, 1 pair of folders.

Sun, Vancouver, B. C., Canada . . . 5 High Speed Anti-Friction Units, 1 pair of folders.

Advertiser, Adelaide, Australia . . . 4 High Speed Anti-Friction Units, 1 pair of folders.

Eagle, Reading, Pa. . . . 6 High Speed Anti-Friction Units, 2 pairs of folders.

LaRazon, Buenos Aires, Argentina . . . 9 High Speed Anti-Friction Units, 3 pairs of folders.

Banner & Tennessean, Nashville, Tenn. . . . High Speed Unit-Type Double Octuple Press.

Sun, Sydney, Australia . . . 8 High Speed Anti-Friction Units, 2 pairs of folders. (London Plant)

Alco Gravure, Hoboken, N. J. . . . 18 Speedry Gravure Units, 2 pairs of folders, 1 single folder, 1 stitcher.

Methodist Book Concern, Cincinnati, Ohio . . . 32-page Magazine Press.

Cuneo Press, Chicago, Ill. . . . 96-page Magazine Press.

Simplicity Pattern Co., Niles, Mich. . . . 32-page Magazine Press.

McCall Corporation, Dayton, Ohio . . . 192-page Magazine Press.

THE GOSS PRINTING PRESS COMPANY, 1535 South Paulina Street, CHICAGO, ILLINOIS

GOSS

NEW YORK: 220 EAST FORTY-SECOND ST.
SAN FRANCISCO: 707 CALL BUILDING
GOSS FOSTER, LTD., LONDON, ENGLAND

1854 ★ 1938

84 years old
...and still going strong!

★

Blatchford
METAL

LINO • MONO • INTERTYPE
LUDLOW • AUTOPLATE • STEREO

E. W. BLATCHFORD COMPANY

900 West 18th Street
CHICAGO

63 Park Row
NEW YORK

THE MONOTYPE SYSTEM

Meets These Newspaper Problems

★ **A Better-Printed Paper**
★ **Wider Service to Advertisers**
★ **Increased Mechanical Production**
★ **Lower Cost of Operation**

Space-Selling Typography — Hand composition of single types alone provides that flexibility in the selection of the proper sizes of appropriate type faces and ornaments, and their assembly in relation to each other and to the space to be occupied, without which good typography cannot be obtained. The pulling power of attractive advertisements helps you sell space.

Fastest Typesetting on Display — It has been demonstrated many times by tests made on "live" copy during actual composing-room operation that no method of setting display in advertisements is so fast as hand work. When type and spacing material cast on the Monotype are available as needed the best typography is combined with the fastest speed in production.

Newest and Best Type Faces — All of the traditional and modern faces now generally used for display advertising are available to Monotype users, in practically all sizes up to 72 point. These include original types by Frederic W. Goudy and Sol. Hess, and foundry faces now being generally used in the composition of display advertisements. And more than five thousand ornaments and borders, and a vast array of special characters, fractions, figures, etc.

Service to Your Advertisers — Monotype-equipped newspapers always give the best service to advertisers. There is always type in the cases and material racks are full. A dozen men, if needed, may go to work on one ad, each unhindered by the rest. Advertisers get proofs when promised; corrections are easily and quickly made; editions always go out *on time!*

Other Monotype Advantages — In addition to these advantages the Monotype System provides ample reserve resources to meet "peak loads" and unexpected demands; continuous production with a minimum of non-productive time; an unlimited supply of new type, borders, ornaments, rules, leads, and slugs at all times; the greatest volume of display linage at the lowest cost; a dependable system of advertising composition, and complete non-distribution. Monotype type is ready to print as it comes from the machine—it does not need resurfacing.

LANSTON MONOTYPE MACHINE COMPANY

Monotype Building, 24th at Locust Street, Philadelphia, Penna.

Set in Monotype 20th Century Family

The "New" Toronto Globe & Mail

Handles its Newsprint,
Stereotype Plates and
Bundles of Papers

The Jampol Way

It has newsprint handling system consisting of conveyor, tiering machine, track system, dollies and transfer tables.

It has stereotype plate conveying system.

It has mailing room bundling tables, conveyors and spiral chutes.

It has press floor steel framing and Feralun non-slip floor plates.

All designed, manufactured and installed by

The Jampol Company

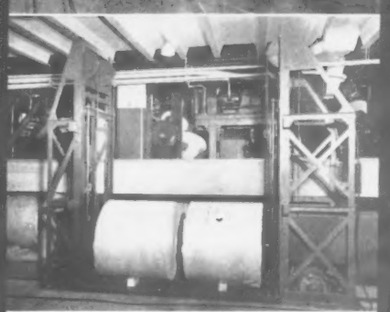
11 Park Place **New York, N. Y.**

United States Factory
Brooklyn, N. Y.

Canadian Factory
Sherbrooke, Que.

Newsprint Conveyor

Newspaper Track System

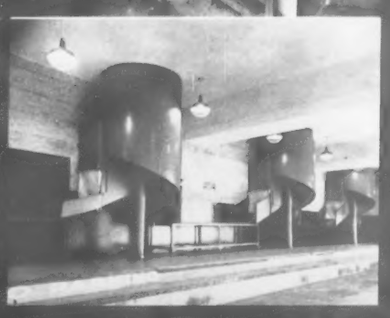


Newsprint Tiering Machine

Stereotype Plate Conveyor System

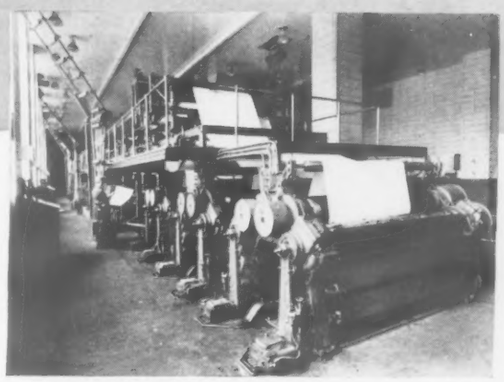
Non-slip Press Floor

Mailing Room Tables and Conveyors

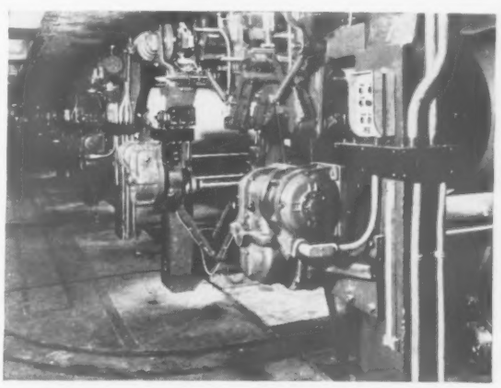


Spiral "Bundle" Delivery Chutes

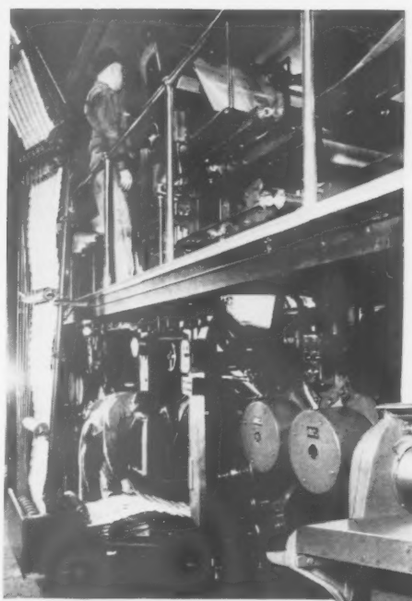
THE NEW
Toronto Globe and Mail Plant is Hoe-Equipped



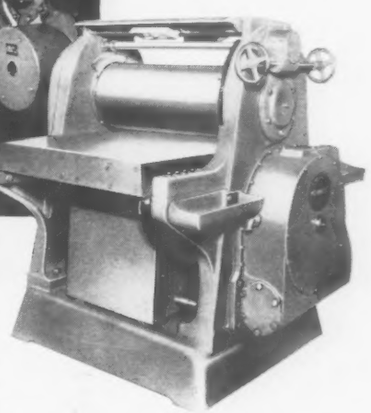
For High-Speed Printing the new Globe and Mail Plant contains twelve (12) latest, new Hoe Arched-Type Super-Production units arranged in a single line and supported by an extra-heavy cast iron substructure with three extra-heavy cast iron supports for motors. These units include all the latest Hoe improvements and represent the last word in the mechanical development of newspaper production.



For Full-Speed Paper Roll Changes, each of the twelve (12) units is equipped with a Hoe three-arm paper reel, with full-automatic electrically-controlled tensions and a full-speed pasting mechanism to permit splicing two rolls of paper at top press speed without shutdown or slowdown.



For Accurate Folding, this long line of Hoe Units includes three (3) Hoe Super-Production double-former Folders. Two of the folders are equipped with double upper formers. All three are equipped throughout with anti-friction bearings.



For Plate-Making Hoe has furnished a stereotyping plant of precision machinery. These include a Monarch II Matrix Roller, Hoe Precision Flat Shaver, a curved router, saw table and monorail trimmer, 6,000 lb. stereo furnace, finishing cylinder, flat speed mould stereotype pumps, Zenke Universal Gauge, and 40 Hoe Chases.

Mechanical men who are interested in increased production, improved presswork quality, or the manufacture of improved stereos are invited to visit us during the Mechanical Conference. We'll be glad to explain the advantages of Hoe's engineering skill and show you Hoe equipment at work in several Toronto plants: The Globe & Mail, The Evening Telegram, and Toronto Daily Star.

You're Welcome at HOE HEADQUARTERS
Royal York Hotel, Rooms 169, 170, 171

R. HOE & CO., Inc.

General Offices: 910 East 138th Street *(at East River)* New York, N. Y.

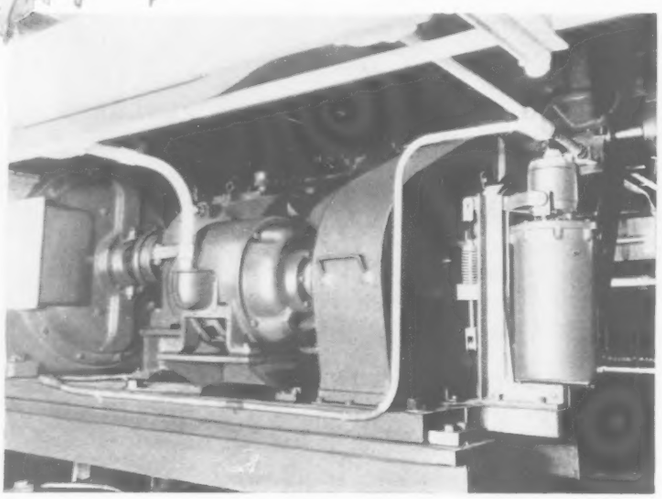
BOSTON SAN FRANCISCO CHICAGO BIRMINGHAM LONDON

When in Toronto—SEE

GLOBE

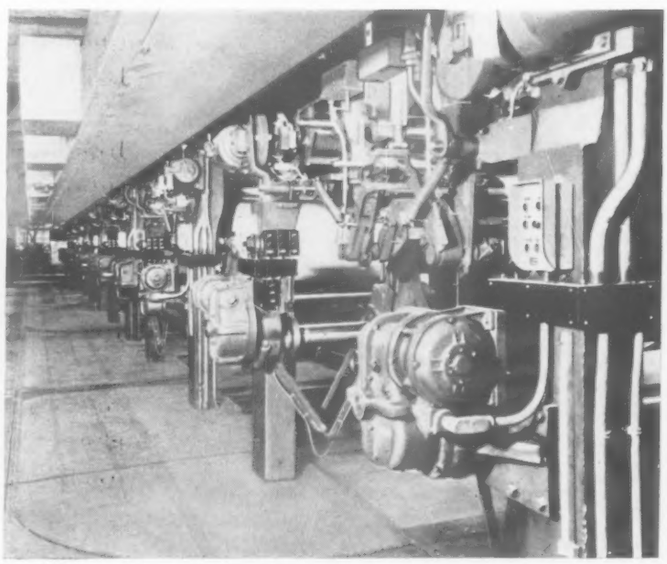
WITH ITS GENERAL ELECTRIC

RECENTLY established in its splendid new building, which has a completely modern pressroom, the Toronto *Globe and Mail* is excellently equipped to demonstrate the latest facilities in newspaper making.



One of three main drives. Threading motor in center, and Thrustor, for operating band brake, at right

General Electric takes pride in this latest application of its press drive and control system. This application has been engineered in accordance with the progressive plans and layouts drawn up by the Engineering Department of the *Globe and Mail*. This drive and control system is of the a-c. double-motor, full-automatic type.



Reel room, showing G-E reel drives and G-E drip-guard push-button station

Main drives—As are the presses themselves, these 200-hp drives are amazingly compact. They are mounted at accessible height but near the ceiling of the reel room, beneath the presses. The threading motors take the presses smoothly up to speeds at which the main motors take over and accelerate to the running speeds.

G E N E R A L

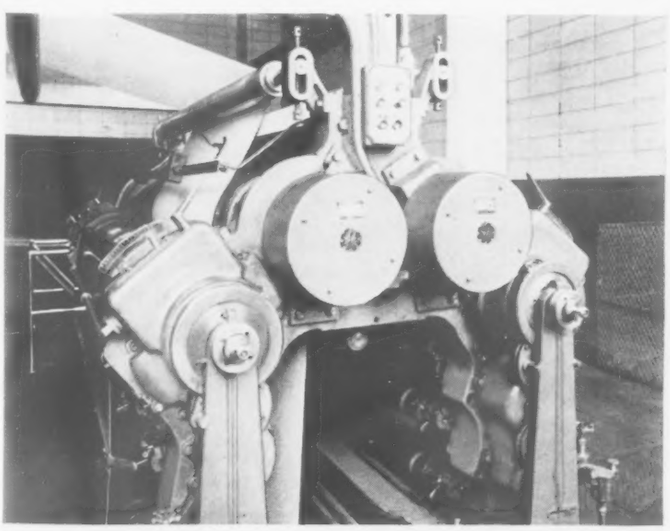
THE NEW

& MAIL

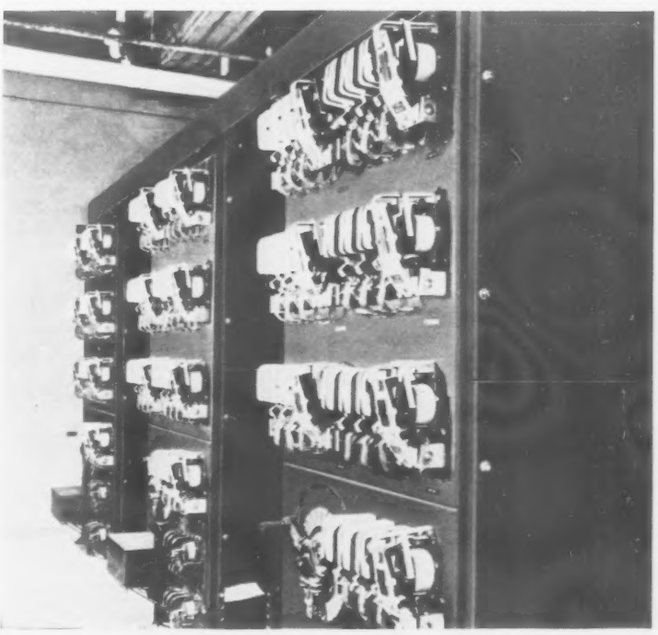
DRIVE AND CONTROL SYSTEM

Patented Time-interval Start—As an added safety precaution, this system automatically interposes a warning interval of several seconds—for clearing the press—between the time of setting the Run button and the Jog button and the actual starting of the press.

Master-control Room—All control, except push-button stations, is remote from the presses and is compactly arranged for central supervision. This confines the live parts to one room.



One of twelve Hoe press units, equipped with G-E magnetic cylinder brakes, paper-break detectors, web breaker, and push-button station



Design of these force-ventilated resistors eliminates heavy wiring between resistors and control panel

Two-speed Gears—This feature adds to the efficiency of the drives and eliminates the need of clutch sprockets. It provides a selection of either of two top running speeds.

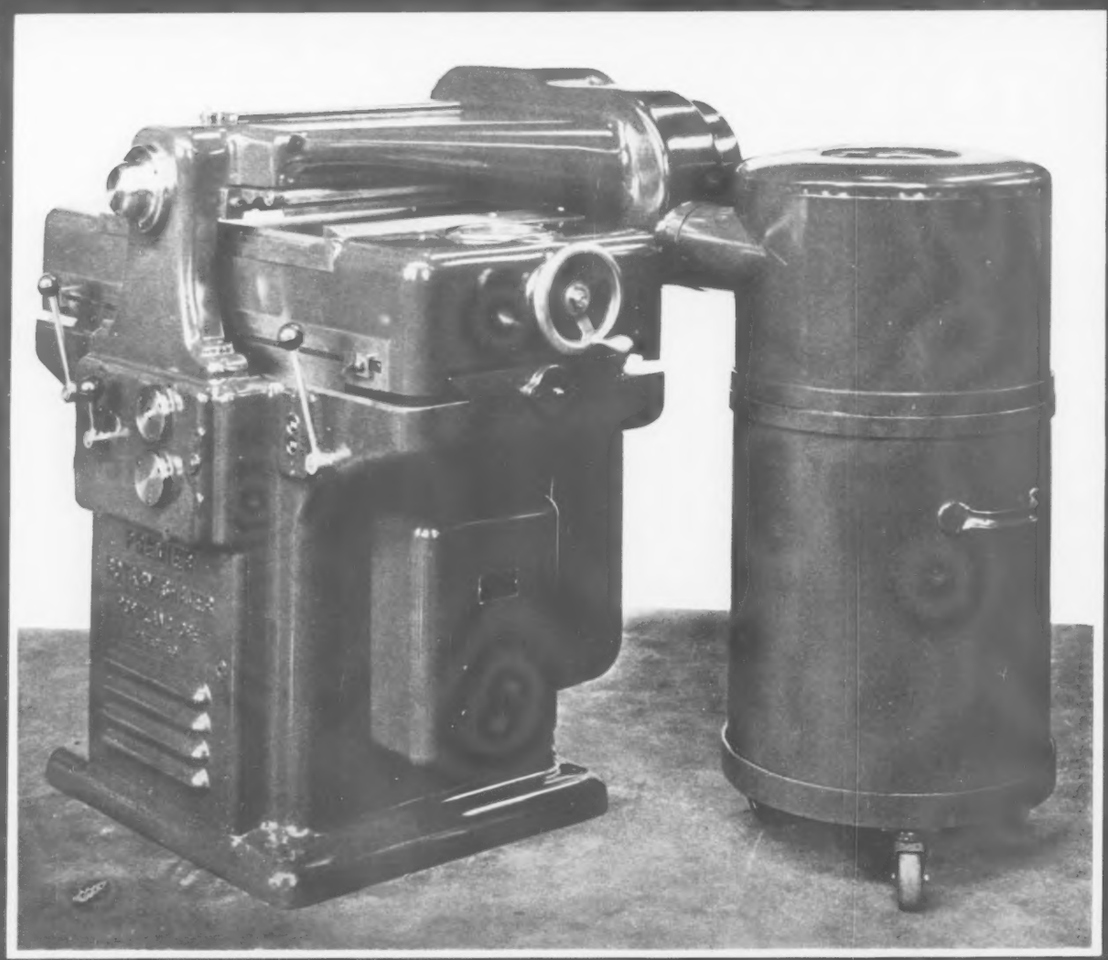
Master Switches—These control the sequence of every operation, and the control system provides for a selection of seven different press-load conditions or combinations. General Electric Company, Schenectady, N. Y.

GE

ELECTRIC

011-389

QUALITY PRINTING
IS A PROCESS OF ELIMINATION



THE PREMIER ROTARY SHAVER

Is designed to eliminate all variations in cut and base levels, and is a distinct factor in the production of Quality Printing • 32 Premier Rotary Shavers are now in daily operation, substantiating our claims for accuracy and speed of production.

STA-HI • INC.

CHICAGO, ILLINOIS
538 So. Clark Street

LOS ANGELES, CAL.
1020 Crocker Street

PORTLAND, OREGON
417 Oregonian Building

THE APPOINTMENT OF
GEO. H. MORRILL COMPANY
DIVISION GENERAL PRINTING INK CORPORATION
AS DISTRIBUTOR OF
DAYCO "STAYPUT" NEWSPAPER ROLLERS

There is much significance in the fact that Morrill has become distributor of Dayco Newspaper Rollers.

The extensive Morrill organization makes Dayco Roller service readily available to all newspaper publishers in the country through branch offices in the following cities:

BOSTON DETROIT MINNEAPOLIS
NEW YORK CHICAGO FORT WORTH
PHILADELPHIA ST. LOUIS SEATTLE
LOS ANGELES SAN FRANCISCO

Dayco Rollers embody superior inking characteristics in materials of extraordinary durability. They have the right consistency and affinity for properly distributing and depositing ink. Their matchless stamina enables them to take the punishment of newspaper press work and give unprecedented roller mileage.

For information about Dayco Rollers specifically built for your work, write or phone the nearest Morrill Branch or communicate with us. The Dayton Rubber Mfg. Co., Dayton, Ohio.

Dayco Rollers

The Original Synthetic Rubber Printing and Lithograph Rollers
The All-Purpose Roller for Form, Distributor, Ductor, Etc.

1 SAVES TIME

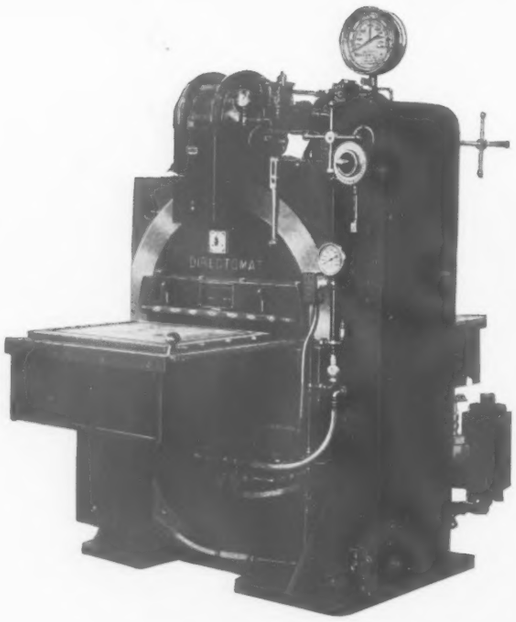
2 SAVES SPACE

3 ELIMINATES STRETCH

4 ELIMINATES GUESSWORK

5 IMPROVES REGISTER

6 SAVES THE TYPE



SEE US AT THE A. N. P. A. MECHANICAL CONFERENCE TORONTO

The LAKE ERIE DIRECTOMAT

Gives You All These ADVANTAGES FOR BLACK AND WHITE NEWSPAPER WORK

1 ONE DIRECTOMAT will easily handle the work of TWO modern matrix rollers.

2 While twice as productive, the DIRECTOMAT is not twice as costly and does not occupy as much floor space as a roller.

3 The DIRECTOMAT completely eliminates stretch and distortion of the mat, which is unavoidable in roller moulding.

4 The DIRECTOMAT permits instant and positive adjustment of the correct amount of pressure to conform with the varying characteristics of form, mat and blankets, thereby eliminating the guesswork unavoidably associated with roller moulding.

5 The shrinkage of mats moulded cold on a DIRECTOMAT is more uniform than when moulded on a roller, because of complete absence of stretch. The result is better register and prevention of bolster marks.

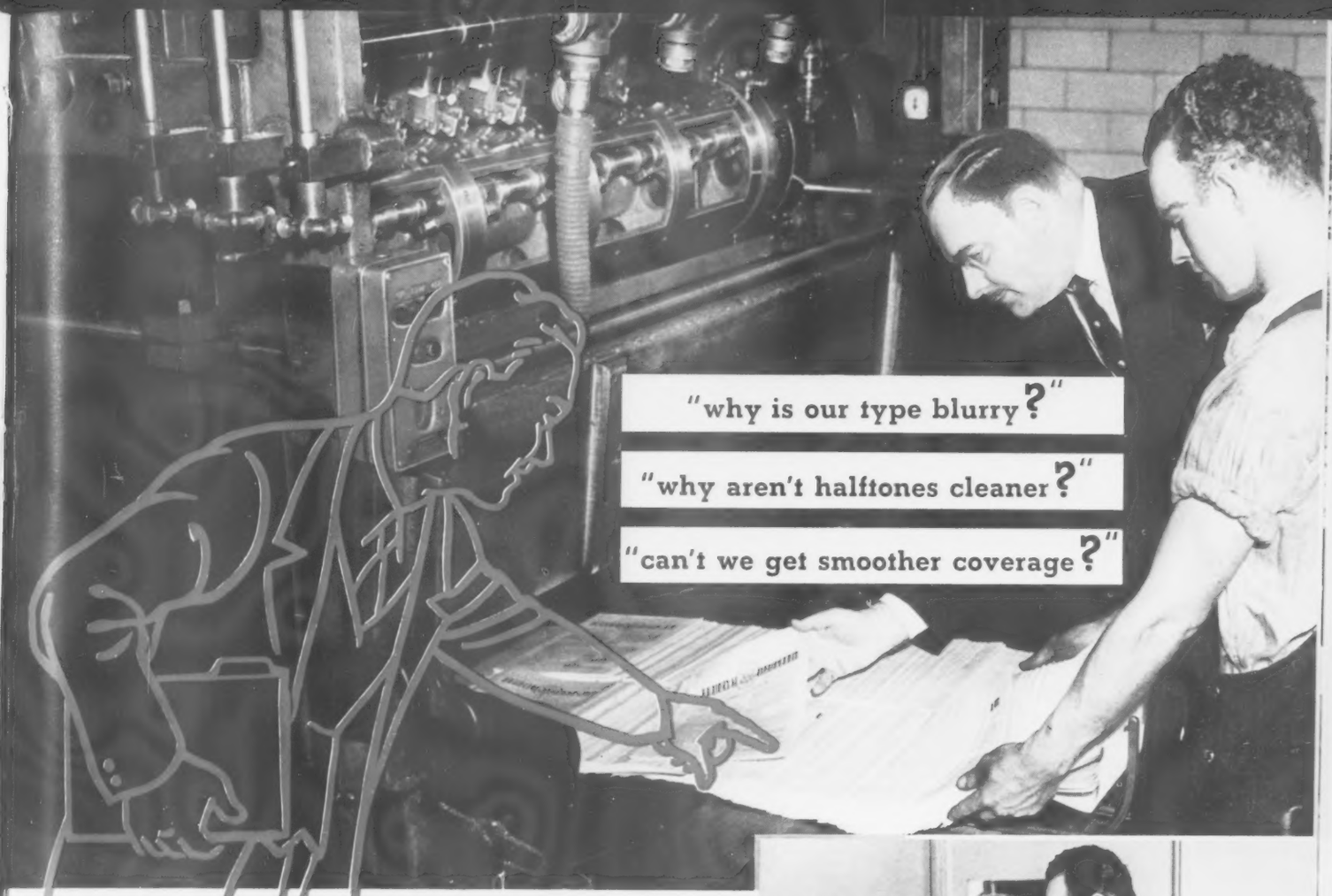
6 The DIRECTOMAT eliminates the troubles frequently encountered in roller moulding, such as crushing weak slugs and electrotypes, breaking the kern of italic type, turning over rules, spreading electrotypes and zincs, thickening the dots of halftones, hard edges, etc.

The reason is very simple: the DIRECTOMAT requires *less pressure per square inch* than a roller to produce the required depth and sharpness in the mat.

Users state that standing want ads, when moulded on a DIRECTOMAT, can be used THREE TIMES LONGER than when moulded on a roller. In other words, the DIRECTOMAT saves them about two-thirds of the cost of resetting of standing matter.

LAKE ERIE STEREOTYPE EQUIPMENT CO., Buffalo, N. Y.

DIVISION OF LAKE ERIE ENGINEERING CORPORATION



Why Wonder? Ask the M·S·M*

BRING the Morrill Service Man into the picture when you have a printing problem solvable with ink. He knows how ink can help you to get sharp, clean printing... clear, crisp halftones... strong, smooth coverage. He comes armed with the knowledge of 98 years of research in developing newspaper inks that deliver quality performance. It is his business to know reproduction problems; he can furnish inks you can depend on for a more attractive, more salable newspaper. His specialty is true economy through fine ink quality. Call him; it costs nothing. Mail the Memo below, now, to your nearest Morrill Ink Service Branch.

*At your command at any time—the practical, tes suggestions of the Morrill Service Man, represent the world's largest maker of news black and color in You incur no obligation in consulting him.

INKS *by* MORRILL

GEO. H. MORRILL CO.

Division GENERAL PRINTING INK CORPORATION

100 SIXTH AVE., NEW YORK, N.Y.

FACTORIES • Norwood, Mass. • Tacony, Phila., Pa. • Chicago, Ill. • San Francisco, Calif.
BRANCHES • Boston • New York • Philadelphia • Detroit • Chicago • St. Louis Minneapolis • Fort Worth • Los Angeles • San Francisco • Seattle

Memo to Your Secretary

Get in touch with nearest Morrill Ink Service Branch and request a Morrill Service Man for consultation on how Morrill News Inks can give us—

- ☐ **Cleaner Printing, Better Legibility**
- ☐ **Quicker-Drying, More Rapid Setting**
- ☐ **Reduced Pressroom Delays**
- ☐ **Improved Ink Efficiency and Economy**

HOW MODERN ARE *Your* METHODS?

odern handling of news rint in storage warehouse y newly-designed Elwell-rker Electric Truck with otating Apron Attachment r rolls. By means of this tachment, rolls can be cked up from horizontal osition and rotated to ver-al, or reverse. They can so be elevated to desired ight, in either-position, d tiered solidly to ware-use roof.

• Do you know that Elwell-Parker Paper-Handling Trucks with Revolving Apron Attachment will pick up, transport and *double*-tier heavy rolls in perfect order, exactly as shown in these two photographs at the left?

1—The whole "crew" consists of the Truck and one man, who is protected by safety devices. Each Elwell-Parker is built under the Underwriters' Laboratory's Re-examination Service. Few manual jobs offer greater hazards to personal safety than does paper-handling, and one slip is more than enough. See pictures at top.

2—Without damage to stock. Elwell-Parkers pick up, transport and put down newsprint without bumping or bruising. Waste from rolls and web breaks on the press are thus eliminated.

3—Warehousing Space Increased. Without changing structure of buildings, Elwell-Parker Trucks increase storage space from 50% to 100% or even more, by tiering rolls to roof truss limits. They tier on end two short rolls at one pickup.

4—Pioneers in Paper Handling. Elwell-Parker was first to supply correct types of Power Industrial Trucks in volume to the pulp- and paper-manufacturing industry—for many years has supplied increasing numbers of Trucks to newspaper, periodical and book publishers.

5—"Elwell-Parker" means Low-Cost Handling of Newsprint Rolls, and flat stock on pallets or skids as required. Elwell-Parker will devise *the* System of Trucks, Tractors or Cranes that will eliminate the greatest amount of waste, time and paper stock, and save the cost of Trucks over and over. Write or wire and we will send an experienced Engineer

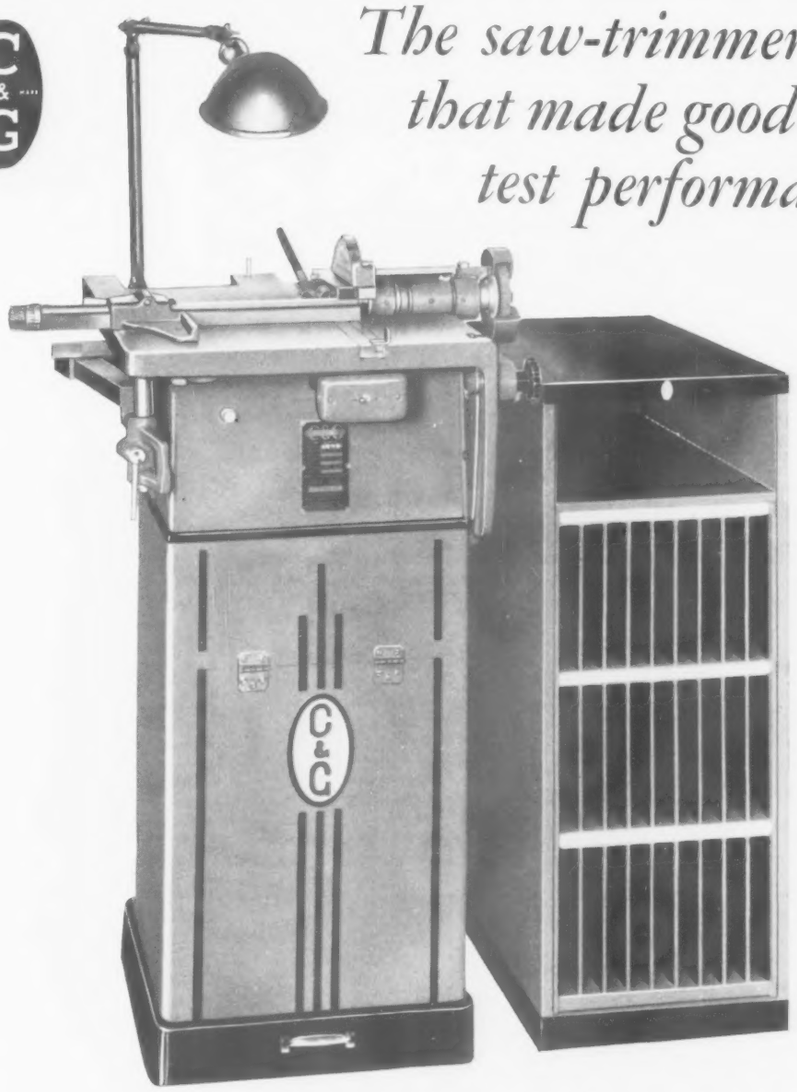
THE ELWELL-PARKER ELECTRIC COMPANY, 4517 ST. CLAIR AVENUE, CLEVELAND, OHIO

ELWELL-PARKER *Power Industrial* TRUCKS

ESTABLISHED 1893 • BUILDING POWER INDUSTRIAL TRUCKS SINCE 1906

C & G

The saw-trimmer that made good in test performance!



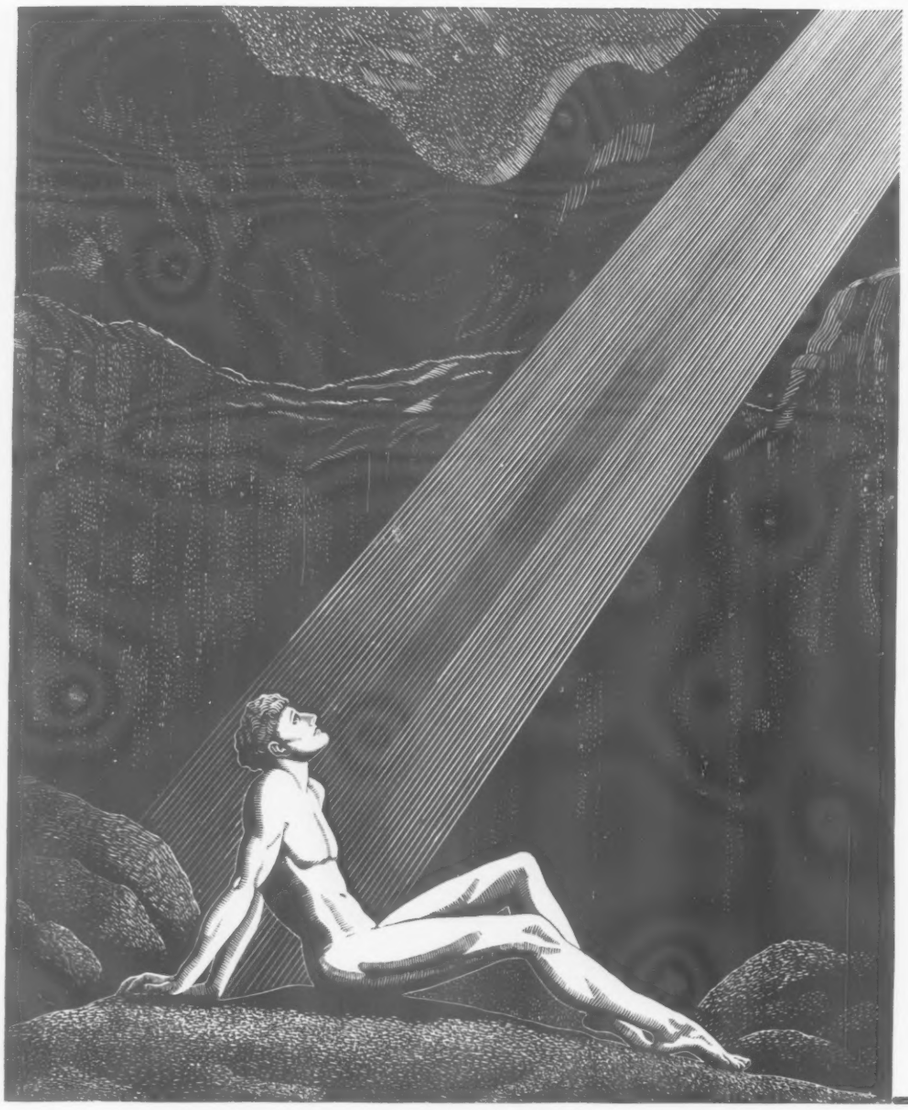
No. 3-A Saw Trimmer—No. 22 Strip Material Cabinet

When users write that it is the best saw trimmer on the market, and many have written, it means just that—*it is the best.* Constructed of the finest materials, designed for precision and convenience, and embodies every possible protection to the operator. All C & G saw trimmers can be purchased with either standard or universal equipment—the last mentioned making you independent from outside saw blade and trimmer knife grinding. To those attending the A.N.P.A. Mechanical Conference at Toronto we extend a hearty welcome to Sears Limited, our Canadian Agents, booth to see this machine in action.

Descriptive Literature Forwarded Upon Request

Milwaukee Saw Trimmer Corporation

610-612 East Clybourn Street — Milwaukee, Wisconsin



A NEW LIGHT OF KNOWLEDGE

ROLLERS for your modern high-speed presses; rollers to properly apply new inks, varnishes and lacquers; rollers that cut your impression cost thirty to forty per cent.

Such Ideal Rollers were developed only because printers confided what must be accomplished. In the light of that knowledge new materials and processes were scientifically considered and production-tested in actual pressrooms until the ideal rollers for your purposes were evolved.

You may require Graphic non-melts, Ideal vulcanized-oil distributors, rubber, synthetic or process recoatable rollers. You cannot afford to guess at results when production and quality are of paramount importance. Hundreds of formulas available to meet every exacting purpose.

Get in touch now with the Ideal representative located in your vicinity or write to

IDEAL ROLLER & MANUFACTURING CO.

CHICAGO, ILLINOIS *Branches in principal cities* LONG ISLAND CITY, NEW YORK

Recent Installations

CLINE UNIT DRIVES

Buffalo Evening News
New York News—*Reorders*
Los Angeles Times—*Reorders*
Indianapolis Star
Chicago Tribune—*Reorders*
Youngstown Vindicator and Telegram
Portland Oregonian

CLINE REELS AUTOMATIC ELECTRIC TENSIONS and HIGH SPEED PASTERS

Pittsburgh Post-Gazette
Los Angeles Times—*Reorders*
New York News—*Reorders*
Buffalo Evening News
Chicago Tribune—*Reorders*
Regal Press, Inc.—*Reorders*

Alternating Current Press Drives with Full Automatic Control were furnished for all sizes of Newspaper, Magazine and Rotogravure Presses.

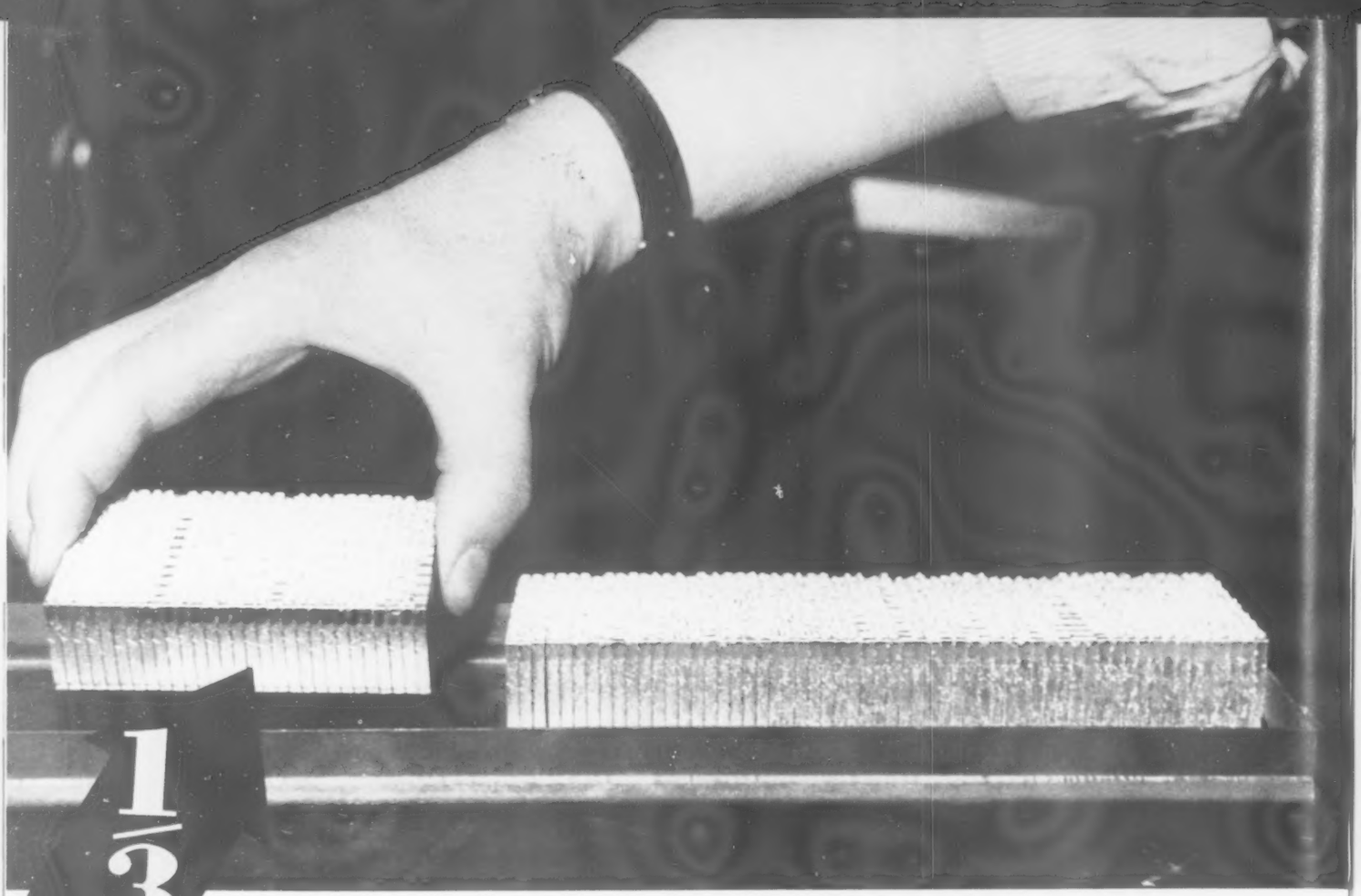
CLINE ELECTRIC MFG. CO.

MAIN OFFICE: 211 W. WACKER DRIVE, CHICAGO, ILL.

Western Office
CROCKER FIRST NAT'L BK. BLDG.
SAN FRANCISCO, CALIF.

Eastern Office
220 EAST 42nd STREET
NEW YORK CITY

CLINE SYSTEM
QUALITY NAME SERVICE FAME
CLINE ELECTRIC MFG. CO. CHICAGO
CLINE WESTINGHOUSE



# of all your corrections can be completely eliminated

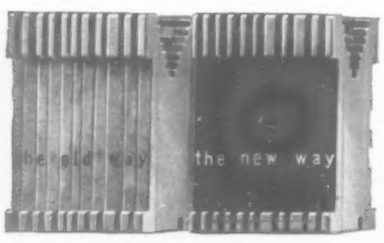
Next time you see a galley of corrections, think of this: *One-third* of those corrections could be eliminated by means of Black & White *Matrix Contrast*.

Does it sound too good to be true? Well, it *is* true! The average reduction of errors effected by Matrix Contrast in thirty-eight composing rooms, ranging in size from six machines to eighty-nine, was found to be 33.70 per cent. The thirty-eight surveys included a total of more than three million lines of composition. Furthermore, it has been definitely established that the savings effected by Matrix Contrast Service continue indefinitely.

The advantages of this service are obtained without the purchase of any new equipment. No additional floor space is needed; there is nothing extra for anybody to do or take care of; and there are no additional operating costs or other expenses, excepting a moderate service charge.

Bear in mind that needless errors waste not only machine time but also the time of operators, floor men, and others. Remember, too, that Matrix Contrast Service is *guaranteed* to reduce total errors in original machine composition at least twenty-five per cent.

See us at the A.N.P.A. Mechanical Conference—or write for booklet.



MATRIX CONTRAST CORPORATION

Sole Licensees of the Percy L. Hill Matrix Contrast Patents Nos. 1,466,437 and 1,796,023

EMPIRE STATE BUILDING, NEW YORK

European Agents, Funditor, Ltd., 3, Woodbridge Street, Clerkenwell Green, London, E. C. 1

Black & White

MATRIX CONTRAST SERVICE

Warehouse

Completed and now being used by Government Printing Office is model air-conditioned structure—Paper handled by electric trucks

By STAFF WRITER

THE United States Government Printing Office Warehouse has been completed and was turned over to Public Printer A. E. Giegengack for use by the Government Printing Office on February 4, this year. The new warehouse is situated on North Capitol Street opposite the present main Government Printing Office Building. It is a three-story and basement building of reinforced concrete, 467 feet long by 87 feet 6 inches wide. The load capacity of all floors is 500 pounds per square foot. There is a total net floor area of 131,661 square feet, approximately 100,000 square feet being used for storage purposes. The cost of the building and site was $1,394,770, the building costing $1,210,403, and the site $184,367. Approximately 700 carloads of paper of 40,000 pounds each, making a total of 28,000,000 pounds, can be stored in the warehouse at one time.

Taking advantage of the natural elevation of the railroad tracks running into the Union Station at the rear of the warehouse site, a double-track spur was laid so that railroad cars loaded with printing stock could be brought directly into the third floor of the warehouse for unloading. The two tracks on this floor will accommodate a total of 16 freight cars at one time.

Third Floor Layout and Facilities

In addition to the two railroad tracks there is also on the third floor of the building air-conditioning equipment for controlling humidity and temperature in the Postal Card and Money Order Section of the Presswork Division, which is located on the second floor. The third floor also provides considerable storage space, and from it operates an automatic roll lowerator which is used to carry rolls of postal-card stock, each roll weighing approximately 1000 lbs., from the unloading platform to the postal-card storage space adjacent to the postal card press unit. Rolls of postal-card stock are rolled from the freight cars onto a receiving platform at floor level. From this point the rolls automatically roll onto the lowerator, the door of which automatically closes. The lowerator then drops to the second floor, where its door is automatically opened, the roll again leaving the lowerator automatically and the lowerator returning to the third floor for its next load. Each round trip of the lowerator requires approximately 1 minute of time, thus allowing the unloading of a 40,000-lb. carload of postal-card stock and delivering it to storage on the second floor within 45 minutes.

Ordinarily, locomotives do not enter the building. However, provision for exhausting the smoke made by the locomotives that do enter is provided through a series of propeller fans in the roof. These fans are controlled by a time switch which automatically cuts them off after a predetermined period of operation.

Postal Card Presses

The postal-card unit is equipped with three rotary card presses, and space has been left for the installation of another press for this work. These presses print postal cards from case-hardened steel plates 80-up on rolls of bristol board of a standard thickness, 33 inches wide. After receiving the print impression the stock is run through a set of rotary knives or slitters on the same press, which cut it into 10 ribbons, each of which is 3¼ in. wide. These ribbons of printed postal cards travel forward to a set of 5 chopping knives which cut them into finished cards 5⅞ in. long. When 50 strokes have been made by the knives the packs of cards are lowered upon conveyors which pass them automatically through banders and deliver them in 5 packs of 50 cards each. This entire operation, from the printing to the banding of the cards, is done on each press. The cards are then placed by hand in card-board cartons, after which they are packed 2000, 5000, and 10,000 in heavy containers. Post Office regulations require shipment to be made in lots of 7,500,000 to the different Post Office agencies throughout the country. Each postal-card press prints, cuts, and bands cards at the rate of 6400 a minute, the average 8-hour daily output of the 3 presses being 6,000,000 cards.

Money Order Presses

In the money-order unit there are four presses—three new ones that were specially built for the printing of domestic money orders and an old one that is used for the printing of international money orders. The three new presses print both sides of the sheet simultaneously from a roll 22 inches wide, 16 at an impression. Each press is capable of producing 10,000 impressions an hour. Each money order carries four serial numbers, and each press carries 64 numbering heads. The postal money-order seal is printed on the face of each domestic money order in blue ink, the face and back of the order and the serial numbers being printed in black. Each sheet is slit into two on the press and delivered in sheets of 8-up, 100 sheets to a "kick." After examinations for defects or irregularities, especially in the serial numbers, the orders are passed on in packs of 200 sheets to a stitching machine. After stitching they go to a stripping machine, which glues a strip of vellum on the back. They are then cut apart on a modern guillotine cutter, sorted, placed in mail bags, and sent by registered mail to their respective destinations.

In addition to the postal-card and money-order presses there are on the second floor two paper cutters, two container stitching ma-

(Continued on Page 27)

View of new three-story warehouse for Government Printing Office. The building was turned over to Public Printer Giegengack for use by the Printing Office on February 4, this year. At extreme left notice the engine on the railroad tracks. Two tracks enter the third floor rear of the new building for loading and unloading cars of printing stock. The building is air conditioned. At the rear of the picture (which is the front elevation of the new warehouse) can be seen the present main Government Printing Office building.

All A.N.P.A. Conference Sessions Held in Day Time

According to information contained in the official program issued by the A.N.P.A. Mechanical Department, all sessions of the Toronto Conference at the Royal York Hotel will be held in the day time—Monday morning and afternoon, June 6; Tuesday morning and afternoon, June 7, and Wednesday morning and afternoon, June 8. In addition to the main stated sessions, there will be four departmental or group meetings—one each for photo-engravers and composing room on Monday immediately after the close of the afternoon session. Group meetings for pressmen and stereotypers will be held on Wednesday, directly after adjournment of the regular afternoon session.

All main meetings will be held in the Royal York Ball Room.

The program is as follows:

PROGRAM

MONDAY—9:30 A. M.

Address of Welcome
Hon. Ralph C. Day, Mayor of Toronto

PHOTO-ENGRAVING SESSION

Howard J. Lamade, *Chairman*
W. S. Lund, *Vice Chairman*

Engraving for R.O.P. Color
H. L. Foster, Mech. Supt., Minneapolis Journal
Discussion
Preparation of Photographic Copy
W. S. Lund, Art Director, Toronto Telegram
Discussion
Shellac for Photo-engraving
Morton Noble, Mgr. Shellac Division, Valentine & Co.
Experience with the Scherer Rolup Process
Fred F. Uhl, Eng. Supt., Cleveland Plain Dealer
M. G. Lowe, Eng. Supt., Louisville Courier-Journal & Times
Discussion

Topics

How do roll and cut film compare with wet plate for quality and quantity of production?

What new engraving equipment has been developed in the past year?

What has been the experience with the new stripping preparation which does, in one operation, the work of both rubber and collodion?

What is the best method for disposing of waste nitric acid?

Additional topics, offered from the floor.

MONDAY AFTERNOON

(Time to be announced from the chair)

COMPOSING ROOM SESSION

J. E. Martin, *Chairman*
D. A. Padgett, *Vice Chairman*

Proofreading
Geo. I. Campbell, Proofreader, Hamilton Spectator
Discussion
A Unique Cost Finding System for the Composing Room
A. M. Jullien, Composing Room Supt., Lansing State Journal
Discussion

Topics

What economies have been practiced to overcome composing room service abuses?

What has been the experience with new typesetting devices, such as 6-mold disks, 18 and 24-point two-letter mats, etc.?

Who has used low chases in assembling large advertisements? How efficient are they in connection with proofing, etc.?

Have members developed any new methods or gadgets for presentation?

What methods are employed to renew or reset worn-out stock headings, repeat advertising, battered rules, etc.? Who is responsible for having this done?

Who uses aniline dyes to identify type, and for what purpose?

Has the growing use of angles in advertising composition necessitated changes in methods of mounting illustrations in composing rooms?

What is the best type of flooring for composing rooms?

Additional topics, offered from the floor.

DEPARTMENTAL MEETINGS

(Immediately following adjournment of main session)

Photoengravers' Group Meeting
Composing Room Group Meeting

TUESDAY—9:30 A.M.

GENERAL SUBJECTS

E. G. Ahearn, *Chairman*
C. J. Strang, *Vice Chairman*

The Inside Story—Motion picture film on lubrication
Presented by Imperial Oil Limited
Discussion
Effect of Humidity Upon Newsprint
J. P. Grant, Paper Chemist, New York Times
Discussion
Ways to Reduce Newsprint Roll Widths—Prepared by Committee on General Subjects
John J. Shea, Mech. Supt., Worcester Telegram & Gazette
Discussion

MISCELLANEOUS SUBJECTS

John W. Park, *Chairman*
Charles H. Ruth, *Vice Chairman*

Are There Any Questions on Report of Inventions Developed in Member Offices, as Prepared by the Committee on Miscellaneous Subjects?
Discussion led by *C. H. Ruth, Supt., Washington Star*
Improved Printing Methods
A. L. Lenzel, Production Mgr., Oakland Tribune

TUESDAY AFTERNOON

(Time to be announced from the chair)

SESSION FOR SMALL NEWSPAPERS

F. W. Schaub, *Chairman*
Russell B. Miller, *Vice Chairman*

My Experience with a Small Engraving Plant
F. A. Lee, Publisher, Oneonta Star
Discussion
Symposium on the Management of Small Newspaper Composing Rooms
By the Committee
Discussion
Tubular Press and Stereotyping Problems
R. W. Angell, Foreman, Ithaca Journal
Discussion

Topics

Is a combination photographer and engraver satisfactory for small newspapers?

The H-M process of photoengraving.

Additional topics, offered from the floor.

TUESDAY—8:00 P.M.

AN EVENING OF COLOR

Presentation by Eastman Kodak Company

WEDNESDAY—9:30 A. M.

STEREOTYPE SESSION

A. H. Burns, *Chairman*
W. B. Astor, Jr., *Vice Chairman*

Some Properties of Dry Mats
Dr. A. W. Schorger, Chemist, Burgess Cellulose Co.
Discussion
Effect of Cooling on Hardness and Grain Structure of Stereotype Plates
Lester Yeager, Production Mgr., Indianapolis Star
Discussion
Molding and Molding Blankets
W. F. Grenier, New England Newspaper Supply Co.
Discussion

Topics

Should there be variation of molding impression or different page make-ups?

Points on the use and maintenance of the Sta-hi mat former.

What is the experience with different paper insulators in flat casting?

What is the experience with vacuum backs in autoplates?

What has the standardization of electro thickness done for the stereotyper?

What has been done by or for stereotypers to improve register of color plates?

What methods are used to eliminate trouble with color mats received from agencies?

Do some mats require a higher casting temperature than others?

Can something be done to create an incentive on the part of dry mat manufacturers to effect a greater differential between lengthwise and sidewise shrinkage?

Additional topics, offered from the floor.

WEDNESDAY AFTERNOON

(Time to be announced from the chair)

PRESSROOM SESSION

Walter Ogden, *Chairman*
R. A. Cooke, *Vice Chairman*

Handling and Conservation of Newsprint
T. A. Corcoran, Purchasing Agent, Louisville Courier-Journal & Times
Discussion

Topics

What new developments and gadgets in the field of color printing?

What has been done to reduce or control ink misting? What is the maximum speed at which a roller will carry ink without throwing off a mist? Do rollers set heavy throw off as much ink as those set light?

If color inks have been matched by the manufacturer, do pressmen always obtain same color as shown on copy? If not, how can it be secured?

How can trouble caused by ink dripping from pump fountains be overcome?

What has been done to reduce the discrepancy between press register and mail room delivery of papers?

Additional topics, offered from the floor.

EXHIBITS

Space nearly 11,000 feet square has been reserved for the commercial exhibits.

The Department's exhibits of newspapers and etchings will be held on the same floor. For the purpose of showing the variation in sizes of syndicated features and ads, particularly those in held-page form, an exhibit of comic sections is planned.

An exhibit of A.N.P.A. member page sizes and various roll widths used by them will be shown. Another exhibit will be comprised of newspapers, halftone cuts, photographic copy and filled-in questionnaires related to halftone etching practices from each contributing office.

The Eastman Kodak Company will give an illustrated lecture Tuesday evening on the making of color plates from color copy or from a photographic film in color.

Soliloquy

Dear Editor—I sure was all pepped up to see by the last issue of *Printing* EQUIPMENT *Engineer* that Old Dry Mat Bill discusses a molding roller combination that does not have rubber of any sort in it. After reading the discussion, seems like the squeeze must be there. It may come late in life, but better late than never; I mean the medal—and it won't be leather on the seat of the pants, either—that we pressmen (who inherit all the other departments' ills) are going to have struck off for him.

Now, if Old Dry Mat Bill really wanted to learn more about printing good papers and improve his mind at the same time, he wouldn't have stopped at analyzing and inspecting the casts secured from cork, felt and rubber creeper and the results secured from the cork and steel. He would have followed the plates down into the pressroom and would have taken a squint at the practical results of his theorizing efforts. It is a thousand to nothing he would have returned to the stereo room heartened by the knowledge that he had kept a fellow craftsman (the pressman) outta the booby hatch for a while longer by rolling his mats good and deep regardless of composing room complaints about slugs which have been crushed because of porosity. At the same time he could have the satisfaction of knowing that he has taken his paper outta the Chick Sales class and has helped make it a real honest-to-goodness specimen of the Art Preservative.

Come outta from behind them whiskers, Dry Mat Bill, and cooperate. What does it matter how beautiful the mat or plate looks if it doesn't reproduce well? Huh?

—IMPRESSION PETE

Warehouse

(*Continued from Page 25*)

chines, two money-order stitching machines, a stripping machine, and a linotype machine. The paper cutters are used for the trimming of money-order books and for the cutting up of waste money-order and postal-card stock; the stitching and stripping machines for stitching and the gluing of a vellum strip on the back of each money-order book; and the linotype machine for setting the name of each post office and the serial number of the office. The carton machines are used for the making of cartons in which to ship postal cards.

The pressrooms and the space used for unprinted postal-card stock are air conditioned. The winter air conditioning is 76 deg. F. and 50 deg. relative humidity. In summer, relative humidity will be controlled by humidifying as conditions may necessitate.

From the postal-card storage vault postal-card cartons are placed on a belt conveyor which carries them up to the third floor and delivers them in mail or freight cars as required for shipment. The time required for loading one car varies from 1 to 2 hours, depending on the proportion of small and large cartons making up the shipment, the large cartons requiring less time than the small ones.

First Floor

The first floor is devoted entirely to storage with the exception of necessary space for a truck shipping and receiving platform and a waste-paper bin, into which is carried by a vacuum system (running from the second floor) the waste trim from the Postal Card and Money Order Section.

Basement Floor

The basement floor is used principally for storage, but it also contains power transformers and switchboard rooms, battery-charging equipment, and other necessary building equipment, including the automatic sprinkler apparatus, hot-water heater, and general heating control apparatus for the building.

Tunnel 30 Feet Below Street Level

The warehouse is equipped with four freight elevators, each of 7500 pounds capacity, serving all floors from the basement to the third floor, and with two larger elevators, each of 15,000 pounds capacity, which serve all floors and the underground tunnel which passes under North Capitol Street and will connect the warehouse with the new building soon to be erected on the corner of North Capitol and H Streets NW. The floor of the tunnel is approximately 30 feet below street level, it being necessary to pass under a large storm sewer in North Capitol Street. The tunnel has two lanes, thus allowing electric trucks, tractors, and trailers to operate as frequently as necessary in both directions at once without interference.

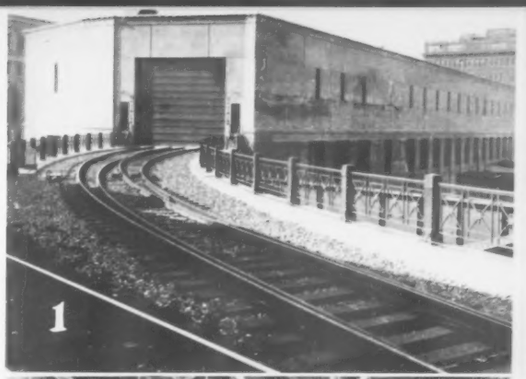
Practically All Flat Paper Is Skidded

Practically all flat paper is now received on skids instead of being packed in wooden cases. During the fiscal year 1937 over 18,000,000 pounds of book, lithograph, mimeograph, sulphite writing, sulphite bond, and 25 percent rag bond papers were received on skids, thereby effecting a saving of over $28,000. Not only did this method of packing result in the saving of $28,000, but it also eliminated the work of 30 laborers.

Paper Handled by Electric Lift Trucks

Paper shipped on skids is unloaded from freight cars on the third floor by means of electric lift trucks which enter the cars, pick up the skids, and carry them away to storage. The same method is used in unloading paper shipments arriving by motor truck. A receiving platform, level with the body height of motor trucks, makes this method convenient. Paper received in rolls is either rolled out of the freight cars or trucks or is picked up and carried by means of electric lift fork trucks. Platform scales for weighing shipments are set in the floor and are conveniently located, both on the third floor where freight is received and on the truck receiving platform at the first floor. These scales are of 10,000 pounds capacity and have type registering beams.

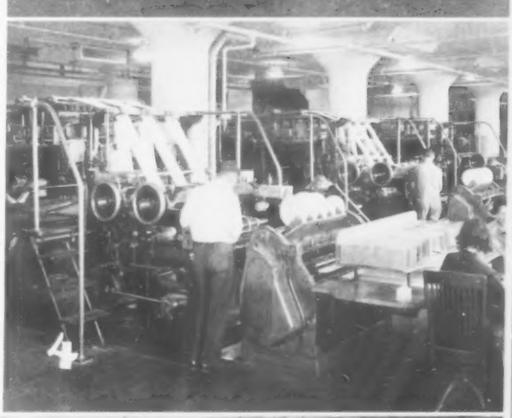
Paper on skids is generally piled one on top of the other by means of high-lift electric trucks or by use of the fork trucks. Rolls are stored on the side and piled about four tiers high by means of electric high-lift fork trucks. The postal-card stock is piled in the same way, but a three-motor bridge crane is used for stacking it. Chains from the crane hook are attached to bars which pass through the cores of the rolls, which method makes possible the handling of four rolls at one time. Materials such as binders' boards are loaded on trailers and hauled with electric tractors to point of storage. Thus it will be seen that the use of stevedore and other hand trucks is entirely eliminated, and all handling and hauling of stock is done with power equipment.



1—*Rear view of new warehouse for Government Printing Office, showing rear elevation with double track spur running into the building. Sixteen freight cars may be accommodated on the tracks inside the building at one time while printing stock is being loaded or unloaded.*

2—*This escalator automatically conveys packages of postcards from the postal card storage vault directly to the door of the railroad car. The time required for loading a car varies from 1 to 2 hours, depending upon the proportion of small and large cartons making up the shipment.*

3—*This truck (one of several) is shown in the basement storage room of the new Government Printing Office Warehouse. The operator is about to manipulate the fork to lift the paper roll and convey it to another location. All paper, both in skid and roll form, is handled to storage and to the presses entirely by means of these trucks and the freight elevators operating to the presses on the second floor.*



4—*Postal card printing presses on second floor of new warehouse built for Government Printing Office. Each press prints, cuts and bands cards at the rate of 6400 per minute, the average 8-hour daily output of the three presses being 6,000,000 cards.*

5—*In the money order printing department of the new warehouse now occupied by the Government Printing Office, there are four presses—three of which are new and were specially built for the purpose. The new presses print both sides of the sheet simultaneously from a roll 22 in. wide, 16 at an impression. Each press is capable of printing 10,000 impressions per hour. Each press carries 64 numbering heads.*

80 King Street West

Location of Toronto *Star* where A.N.P.A. Mechanical Conference delegates may gather some ideas about newspaper production

By STAFF WRITER

How to move composing machines to a new location is graphically shown here.

ANY organization publishing 230,000 newspapers daily must have up-to-date equipment and wide-awake executive personnel. This little story about the Toronto *Star* is not intended to discuss the business and editorial side of newspaper publication, but is to tell all production and mechanical executive delegates to the Toronto A.N.P.A. Mechanical Conference that they should, by all means, pay a visit to the *Star* plant while in Canada. Here is a metropolitan newspaper publishing plant outfitted with modern production equipment, manned by competent craftsmen and supervised by mechanical executives who take intense pride in their association with one of America's great newspapers.

While in Toronto, get acquainted with Vice President and Production Manager J. S. Atkinson, Mechanical Superintendent A. C. F. West, and all of the departmental executives, most of whose informal portraits are shown here. The *Star* will be holding open house for you during the Mechanical Conference.

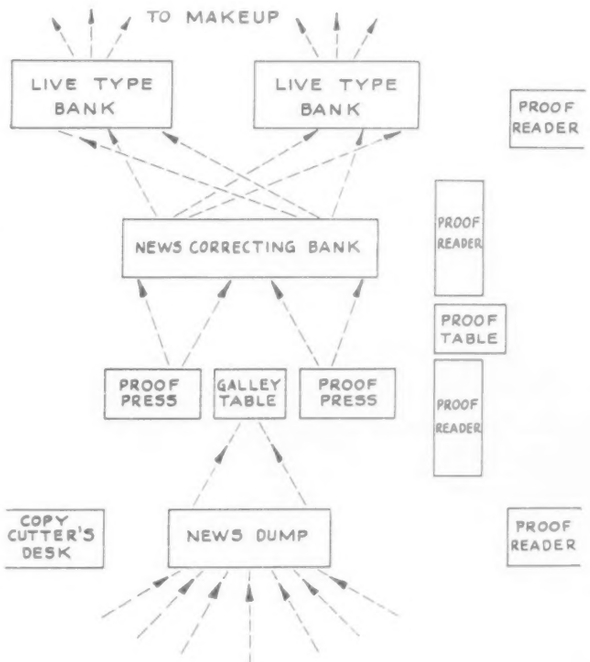
The *Star* building rises 340 feet above the rock foundation upon which it rests, 36 feet below street level. The building has three basement levels and 23 stories above street level. The *Star* plant is housed in five stories. The entire ground area 170 feet front is occupied by business offices. The building extends back 186 feet from King street to Pearl street where the delivery platforms and goods entrances are located.

All four faces of the *Star* tower are of stone. The first three stories on King street are of Stansted granite, embellished with bronze ornamentation. The marble foyer and main public office on the ground floor are done in Rose Tavernelle from Italy and Flirida Cream from Spain. The black marble employed throughout the remainder of the building is Mississquoi quarried in Canada.

Several features in building construction and equipment layout are to be found in the *Star* plant. Seeing these things will more than repay visiting executives for the time spent in the building. Three stories underground, in the lowest basement level, will be

AT RIGHT:

Arrangement in the Toronto Star *composing room for getting news composition to the makeup in corrected form is illustrated in this diagram. The endeavor, in most composing rooms is, of course, to cut down to the "irreducible minimum" the line of travel of production from the time copy is received until it reaches the makeup department in corrected type form. The operators deliver slugs with copy on the news dump. The slugs are placed directly on the steel work top. As he lifts the slugs to a galley, each dump man (normally two dump men are employed) scrapes and inspects the slugs. The balance of the diagram is self-explanatory to production executives.*



MECHANICAL EXECUTIVE STAFF IN PLANT OF TORONTO *STAR*

A. C. F. WEST
anical Superintendent

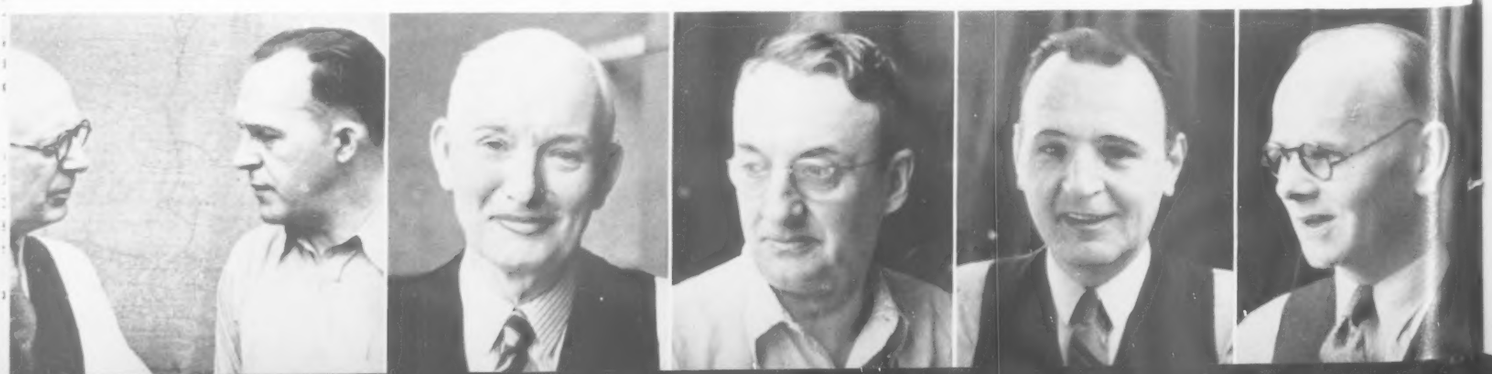
C. M. DAVEY
Pressroom Superintendent

ALEX THOMPSON
Composing Room Superintendent

J. P. DOWDEN
Stereotype Superintendent

W. S. MOXON
Photoengraving Superintendent

H. E. HUDSON
Rotogravure Superintendent



found a life-size hydro electric sub-station. Into it come lines bringing currents of 2200 volts of raw Niagara power which is converted and transformed into the various pressures required in the plant and building for scores of different uses. In the *Star* plant there are over 420 separate motors ranging in size from the small adding machine motor to the 700 h.p. motors on the converters. The connected load is 2400 h.p.

Composing room executives will find the composing room layout of interest. Forty-five line-composing machines and four Ludlows, two Elrods are located in advantageous array. In the words of Mechanical Superintendent A. C. F. West "There isn't a back-step in the entire room." In the accompanying diagram can be seen how the news copy flows in a straight line from the composing machines into the makeup.

For those executives who are thinking about moving composing machines into a new building, the picture on page 28 shows how Mechanical Superintendent A. C. F. West of the Toronto *Star* accomplished the move efficiently without dismantling the machines. It might be well to file this idea for future reference "just in case."

In February, 1929, much of the plant equipment of the Toronto *Star* was moved from the old location into the new building which houses the *Star* at the present time. Mr. West was faced with the problem of moving 32 Linotype machines into the new building from the old composing room. By planning ahead, the move was accomplished without mishap so that production was not interrupted in any way. Mr. West had constructed three cages from angle iron, as shown in the illustration—one to be used for caging a machine in the old composing room, one in which a machine was being hoisted to the new composing room and one for return to the old composing room site when a truck came to pick up another machine for removal to the new plant. Each angle iron cage was constructed in such a way that two corner posts could be removed until after the machine had been slid skid-like on the bottom pieces of the cage, after which the corner pieces were bolted in place. Holes were drilled in the bottom pieces in exactly the right location to permit bolting down the machine legs.

In the stereotype department will be found, among other important equipment pieces, mat rollers and a direct pressure machine. The latter is used in molding color plate mats for the *Star* weekly magazine. Color plates are cast in what is claimed to be the first newspaper size vacuum casting box to be employed anywhere in America.

"The *Star* pressroom," states a member of the *Star* production family, "is the most spectacular part of the whole plant. Like a great battleship's engines, the gleaming mass of steel and brass seems fitted for almost any mighty task save the inhaling at blurring speed, of fragile newsprint." Pressroom executives will want to meet and talk to Pressroom Superintendent C. M. Davey to see how editions and the weekly magazine color supplement are handled. The paper storage and handling facilities may also be of interest to you.

Contrasted with the American Sunday newspaper is the *Star's* Saturday papers which includes the regular daily edition, the weekly magazine supplement and a 32-page color gravure tabloid size illustrated supplement. The Saturday *Star* weekly paper runs in excess of 325,000 copies.

Occupies New Quarters

The Northwest Paper Company, manufacturer of printing, lithographing and utility papers, have just installed the Chicago Division Sales Organization in new and modernly equipped offices in the Civic Opera Building, 20 North Wacker Drive, Chicago.

The Ties That Bind Type Forms

By WILLIAM J. ACKER*

THE man who picked up Guy de Maupassant's famous "Piece of String" might have been a printer. For ages printers have been valuing string as a medium for tying up type forms. In many print shops a piece of string is used over and over, even being tied together if it breaks while being wound around a type form. Others cut it from the form and throw it away, and use new string for each successive tying operation. It may be a matter of considering the value of the compositor's time as compared to the cost of new string.

It was inevitable that among the people who used string, or saw it used that way, there would be some to ponder on different means or improved methods of tying type forms. Farmers have machines for binding sheaves of grain and merchants have machines for tying packages. But, for the printer, an economic solution of the type form tying problem does not seem to lie in that direction. In tying, the nature of most type forms requires the careful manipulation that only an experienced compositor can give.

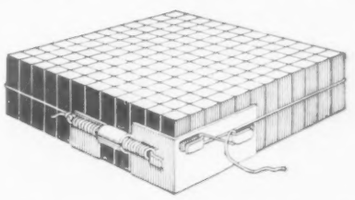
Type form tying methods comparable to other modern printing equipment are all of comparatively recent origin. One method for holding a type form together is the Rouse Page Frame, patented in 1923. This frame consists of four interlocking steel bars. The outside dimensions of the type form must coincide with the inside dimensions of the frame. The "squeeze" is taken up by a thin metal wedge shaped somewhat like a makeup rule. A special key is used to force this wedge in between the bottom of the type form and the frame, and to remove the wedge to unlock the frame. The type form can be locked up in a chase without removing the frame.

Another tying medium in use is a pliable metallic tape, with a simple device for tightening it on the form. The makers call it a Permanent Type Tie to remain on the form until the type is discarded. Obviously, its removal may be desirable when extensive corrections or alterations are required on the form. The tape comes in rolls and may be cut with scissors. One round of tape ties the form securely.

A recently developed type-tying device is called the Jiffy Form Tie. This adheres to string as part of the device. A length of stout cord is attached by a spring to a metal corner piece. On the inner side of the shorter part of this corner piece emery paper is fastened to provide a firm grip on the type form. The string is placed about the type form and fastened on two hooks in the metal corner. The spring adds tension to hold the form securely tied. This tie must be removed when the form is locked up.

The Wilson Type-Tyup System consists of a steel frame, hinged at three points and provided with a locking pin at one open end and a socket at the other. To "tie" a form the frame is placed around it and locked by pushing the pin into the socket. It can be unlocked just as easily and quickly. The frame is spring-tensioned to compensate for the "squeeze" in the form. The frame can be folded when not in use, requiring little storage space. It can be made in practically any combination of pica dimensions for handling quantities of standard size pages.

A lifter is provided to raise the frame to an exact height on the form so furniture can be place under the frame and next to the form in locking up operations. This procedure is reversed when the form is unlocked, so that at no time need the form be moved about without being securely held by the frame.



Seiler Manufacturing Company's Jiffy Form Tie. Principally, the device consists of a length of stout cord, a spring and a metal corner piece. This tie is removed when the form is made up.

It was shown in a certain demonstration that the total time saved by using the Tyup System in the minimum handling of 500 pages (in tying and untying for makeup, office corrections, alterations, lockup and unlocking to storage) was 54 hours and 10 minutes. In other words, it required 72 hours and 15 minutes to do the work with string that with Tyup was done in 18 hours and 5 minutes.

Apparently the various type tying mediums now in use come under two general classifications: Those that are made in fixed dimensions to fit type forms corresponding in size, and those that can be used on forms of various sizes.

*Highland Park, Ill.

These magazine pages have been placed on the makeup stone ready for placing the furniture for lockup. Each page is surrounded by a Wilson Type-frame in place of string. The makeup is shown raising a Type-frame slightly by means of a lifting device to permit placing furniture about the page. After the furniture has been placed about the page, the frame may be removed. Each frame is made of a section of spring steel. The frame is hinged at three corners, one corner being provided with eye extension with locking pin for opening or closing the frame while making corrections in a page.

Gingerbread

And cheese design not to be found in splendid new air-conditioned home of the Toronto *Globe and Mail*—Novel production facilities

By STAFF WRITER

NOTWITHSTANDING the expenditure of approximately $2,000,000 for a new and exclusively occupied newspaper publishing plant, $750,000 of which has been invested in new plant equipment, a number of specific things incidental to modern production in the new Toronto *Globe and Mail* building are of particular interest to newspaper production and mechanical executives. Among these may be mentioned the year-'round air conditioning plant, the lighting system throughout the building, layout of the battery of news and head machines in the composing room, special ventillating ducts in the rim of a sink to draw off fumes in the engraving room, a specially constructed proofroom, and other equally important features for improving production.

The new eight-story building for the *Globe and Mail* is located at King and York streets and occupies an area 107 ft. by 185 ft. Construction is of reinforced concrete. The base of the building is black granite from Norway. The walls are finished in buff Indiana limestone honed to a smooth finish to eliminate dirt and soot coating.

Interior walls are of brick, tile or gyproc. Ceilings are plastered metal lath. Interior is sound-prooted. Interior furnishings almost entirely are stainless steel.

Since the building is occupied entirely by the *Globe and Mail* organization, design was limited to needs of the various departments so as to obtain greatest efficiency.

Floor Loads

The live load of the composing room floor is 440 lbs. per sq. ft., the mailing room floor, 350 lbs., and some portions of the main floor carry 550 lbs. live load per sq. ft.

Occupancy of Floors

The first floor is occupied by facilities to transacting business with the public, including a fine lobby and the pressroom. The second floor is taken up by the circulation department and the mailing room. The composing room is on the third floor as are also the stereo mat molding machines and job equipment. The advertising department, wire photo facilities and the engraving room take up the fourth floor area. Fifth floor is devoted to editorial department, and the telegraph and teletype machines. The sixth floor accommodates the president and general manager's offices together with adjoining business offices. The seventh and eighth floors at present house the fan equipment for air-conditioning system.

Planning and development of the William H. Wright building which houses the *Globe and Mail* has been under the close supervision of General Manager Harry G. Kimber, assisted by Mechanical Superintendent James Harrison who supervised the placing of and planning for facilities for the mechanical equipment. Architects are Mathers & Haldenby, Toronto, who retained Lockwood & Greene Engineering Company of New York as consultants. General contractors are Anglin-Norcross Company.

Air Conditioning Equipment

Air conditioning has been installed in the new building. The equipment is said to have cost approximately $125,000. Each major mechanical department is air conditioned according to the special needs of the department. Our readers will be interested in how the various mechanical departments are kept in condition to provide maximum comfort according to the needs of each department.

There are twenty-one fans in the building and, in order to more clearly understand this description, all of the major mechanical department units will be discussed individually.

Pressroom and Reel Room Conditioning

This is designed to provide air-conditioning for the basement and ground floors insofar as paper storage and the presses are concerned. In winter the fresh air is filtered, heated and humidified. In summer the air is filtered, cooled and dehumidified or humidified as may be necessary. High relative humidities are maintained to prevent static electricity, provide a clear print and prevent paper breakage.

The fresh air is drawn from the roof to the basement through an insulated duct approximately 57 square feet in area. The air first passes through a bank of viscous oil impregnated filters to remove dirt, then through two banks of heating coils which are automatically controlled by thermostats. The air is then drawn through a washer chamber in which 670 Imperial gallons of water per minute are constantly being circulated and sprayed through nozzles. After passing through the spray chamber the air is drawn into a fan which has a maximum capacity of 80,000 cubic feet of air per minute, or nearly three tons of air. This fan is driven by a 20 h.p. motor, the amount of air being controlled by variable vanes on the fan inlet.

The fan discharges its air into the reel room where several hundred tons of paper are stored preparatory to being used on the presses. The air then rises through the presses up to the ground floor and is drawn out of the pressroom through large grilles at the ground floor ceiling. Under normal conditions, when the presses are in operation, nearly 220 k.w. of

The William H. Wright Building which houses offices, personnel and plant equipment of Toronto Globe and Mail.

heat must be removed per hour to prevent excessive temperatures in the pressroom. The fan drawing the air from the pressroom ceiling is located in the penthouse on the eighth floor and is very nearly as large as the supply unit in the basement. The exhaust duct running from the pressroom up to this fan is made of 11-gauge steel with welded joints, access doors being provided on all floors to facilitate the cleaning of this duct due to the large amount of carbon deposited by the ink mist.

Boiler Room Conditioning

The boiler room in the basement has no windows or direct communication with the outside, and consequently some means of introducing fresh air had to be provided. This was accomplished by installing a variable speed fan in the compressor room drawing air from Pearl street and discharging it through grilles over the firing aisles between the boilers. A large proportion of this air is required for combustion, the balance passing up a gravity flue through the roof. Actually, in practice 18 to 25 pounds of air are required to burn 1 pound of coal, and since 1 pound of air at atmospheric pressure is equivalent to approximately 13.3 cubic feet, it can be seen that the problem of providing air for combustion is of no minor importance.

Electrical Room Conditioning

The electrical room in the basement, like the boiler room, has no outside ventilation and, since the press motor resistors and main control switchboards generate a great deal of heat, it was found necessary to provide mechanical fresh air supply and exhaust fans. The supply fan draws air from the reel room and discharges it through a concrete duct below the floor, where it is delivered through grilles in the floor near the resistors. The air rises through the resistors and is drawn off at the ceiling by the exhaust fan and discharged through a perforated stone grille onto King Street.

Press Motor Drive Conditioning

Due to inherent characteristics peculiar to the three 200 h.p. motors driving the presses, special cooling fans had to be provided to blow air through the frames and remove the heat generated by the motors. Each of these fans will handle 1,800 cubic feet of air per minute, against a static pressure of 3½ in. water gauge. The motors are wired in the press motor circuit, so that the fans start whenever the press begins to operate.

Composing Room Ventilation

The composing department is situated on the third floor and is ventilated by an entirely separate system.

The linotype department accommodates nearly fifty linotype machines, each machine having a 2½ k.w. electric metal pot in addition to a 1/3 h.p. motor. The heat generated

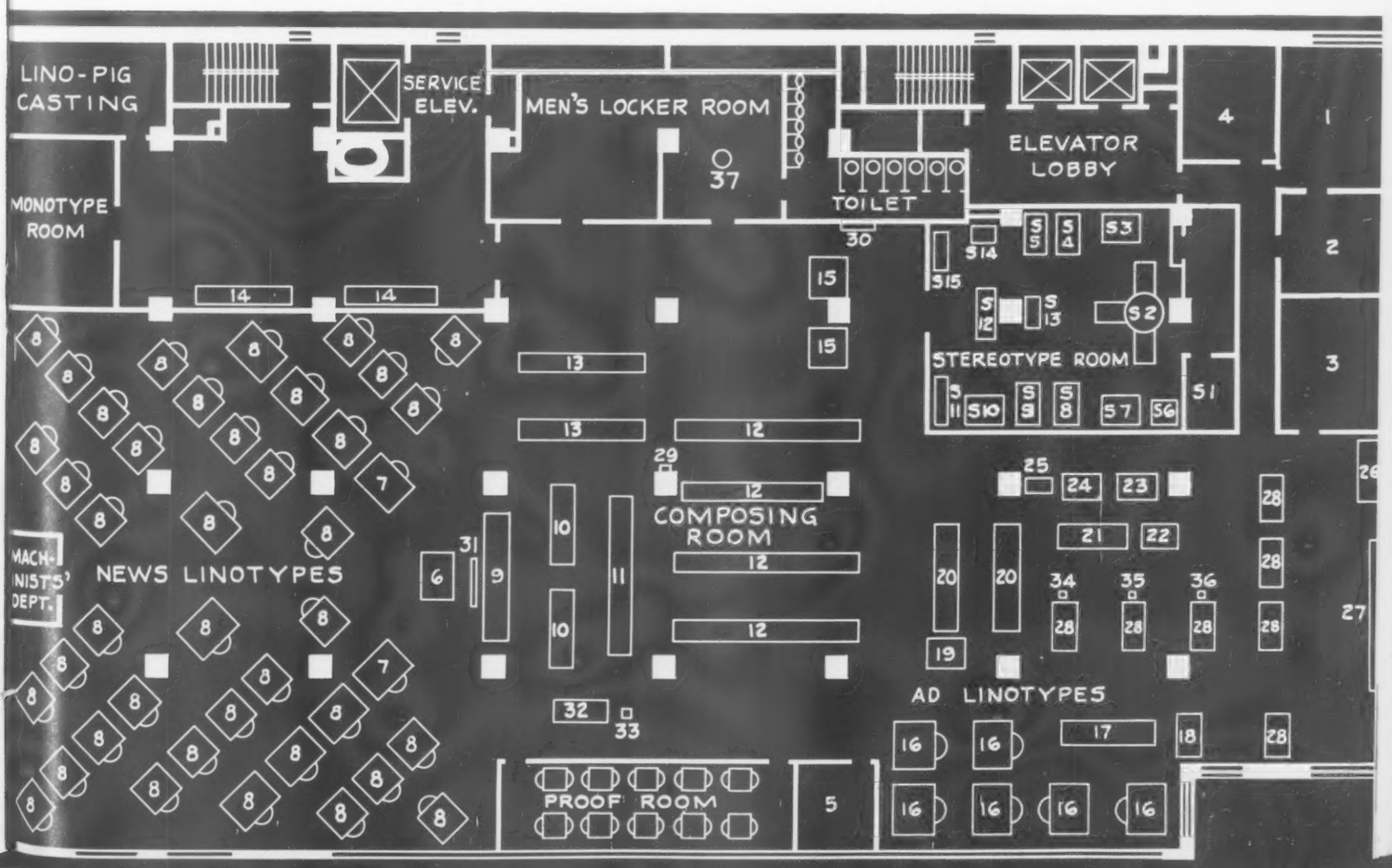
(Continued on Page 46)

KEY TO COMPOSING ROOM AND STEREO DEPT. EQUIPMENT LAYOUTS—*THE GLOBE AND MAIL*, TORONTO

1. *Mechanical superintendent*
2. *Mechanical purchasing*
3. *Cut and mat library*
4. *Store room*
5. *Composing room superintendent*
6. *News copy desk*
7. *Head-letter machines*
8. *News composing machines*
9. *News dump*
10. *News proof presses*
11. *Makeup bank*
12. *Makeup tables*
13. *News storage*
14. *News storage*
15. *Molding machines*
16. *Ad composing machines*
17. *Ad dump*
18. *Ad foreman's desk*
19. *Page proof press*
20. *Ad dump*
21. *Ad storage*
22. *Ad proof press*
23. *Ludlow*
24. *Ludlow*
25. *Proof press*
26. *Ad storage hold order*
27. *Foreign advertising storage*
28. *Ad frames*
29. *Wireless speaker for editorial*
30. *Mat chute*
31. *Trouble light indicator for machines*
32. *Heading bank*
33. *Saw*
34. *Saw*
35. *Mitre machine*
36. *Saw*
37. *Bradley fountain*

Key to Stereotyping Department

S1. *Stereotype foreman*
S2. *Metal pot and casting boxes*
S3. *Saw and trimmer*
S4. *Shaver*
S5. *Router*
S6. *Jig saw*
S7. *Saw and trimmer*
S8. *Shaver*
S9. *Router*
S10. *Saw and trimmer*
S11. *Base rack*
S12. *Bench*
S13. *Flat scorcher*
S14. *Tool and supply cabinet*
S15. *Humidor*



Pre-Makeready

How department functions and equipment necessary to carry on work of delivering level form to pressroom—unavoidable makeready only remains for pressman

By STAFF WRITER

IN THE recent article," Let's Face the Facts and Correct Errors," were discussed the weaknesses and errors existing in printing elements and the susceptibility of those elements in causing loss of production time in the pressroom. In the discussion on true makeready, we stated it is possible for management to provide the pressroom with level and type high forms. The level form makes it possible for the pressman to devote his time to unavoidable makeready and to grade the impression to the various tones in the impression or print and to the various masses of matter in the surface of the form as well.

The desirability of installing a pre-makeready department by means of which the pressman will receive level forms, in all probability, should be operated by an experienced pressman. He is familiar with the requirements and details of pressroom procedure. The pre-makeready department should be conveniently located for contact both with the composing room and the pressroom.

Equipment

A stout table high enough to enable the operator to sit down and work to best advantage, thick iron slab, straight-edge, pincers, calipers, hammer, brads, punch nail set, file and wood chisel should be provided. When a plate is to be removed from wood base it is slammed, base down on iron slab. The brads loosen and are removed with pincers, after the plate has been pried up off of base with flat side of wood chisel. The burrs from brad holes on the reverse of the metal plate are removed with the file. Wood chisel may be used also to remove high spots of metal on non-printing parts of machine slugs, electros, zinc line cuts, linoleum blocks, etc.

Gauges

Slide-on gauge, micrometer and the regular standard plate gauges are all necessary and none should be omitted.

Wood Block Planer

The kinves must be kept sharp and must be kept in good condition. Sandpapering wood bases is as makeshift as it is impossible to level the bottom of the base by this method. Neither is a planer effective unless the knives are sharp and without blemishes.

Modern Test Press

The test press should be of cylinder-flatbed type if the pre-makeready is for flatbed production presses. Besides testing, it may be used for pulling proofs, trial sheets for marking out overlays and even put on production runs within its range when not testing.

Paper

Near the plate gauge should be a cabinet stocked with paper sheets in the various thicknesses most convenient for underlaying and interlaying, ranging from 0.001 in. tissue, 0.0015 in. onionskin, 0.002 in. folio up to say 0.015 in. If the range of sizes of plates permits standardization of sizes in the sheets of paper, this should be done and the sheets handily arranged in drawers in segregated sizes.

Another cabinet near the test press should contain sheets of the various papers in the sizes most used on the testing press, each segregated according to size and sort of paper.

Inks

There should be an assortment of inks most used on the test press and an ink cabinet, together with a glass slab and the smaller ink knives used for testing and proofing.

Mechanical Overlays

Complete equipment for making the type of mechanical overlay preferred together with the necessary supplies should be in a location convenient for the pre-makeready department, preferably in the same room to save steps.

Design for Makeready

Since makeready is just Anglo-Saxon for *preparation*, we get a clearer picture if we visualize the selection of photographically produced copy, screen and paper, suitable ink for paper and press, the work of the pre-makeready department and the pressman's makeready as just so many steps in makeready in which different individuals take up successive parts of a single program, task or job.

Step by step the man in charge of pre-makeready may proceed as follows:

Plates

Test plate for level with straight-edge lengthwise and crosswise, for rocking and snug contact with base. If satisfactory, note whether plate is mounted squarely (not tilted out of perpendicular) on base and secured with brads as the run requires.

If plate must be dismounted, slam bottom of base on iron slab until brads loosen and pry up plate with wood chisel, taking care not to bend or break the plate, especially thin zinc line cuts. After pulling out all brads (be sure you get them all), place plate face down on a clean sheet of cardboard (be sure there is nothing on the card to scratch the plate). Plane base level on both sides, noting that the knives are cutting evenly as they should. File burrs off reverse of plate and remount on side of base that was higher in the center before planing. Avoiding old holes, work from center of each side to its ends when nailing plate to base, the better to pull it down snugly.

Gauging Remounted Plate

The precision gauges, slide-on gauges and micrometer as determined by the plate are used together or alone.

Underlaying and Interlaying

The sheets used for underlays should be well secured to wood base with paste and trimmed flush. Vignetted plates and others largely of a highlight nature should be lower than solid and near-solid ones and smaller cuts generally require less underlay than large ones. Judgment derived from experience is exercised, remembering that a plate is better a trifle low rather than over height, with the exception of large solid plates on wood which are generally run over type height to combat the "give" under impression.

(*Continued on Page 90*)

Frapomist Test at Milwaukee *Journal*

A single Frapomist unit for use in connection with newspaper color printing was installed on a color press in the pressroom of the Milwaukee *Journal* recently. As a result of the test, the following observations were made: (1) Ink does not cake on rubber rollers; (2) Lubrication of rollers is complete; (3) Static and flying ink are eliminated; (4) Gives excellent printing results; (5) Is simple and positive in performance.

Frapomist was announced in the new equipment section of *Printing* Equipment *Engineer* for May. The results of a test conducted in the pressroom of a nationally known magazine printer were also published. The Frapomist unit is mounted on the frame at the side of the press. A liquid spray is ejected upon the inking rollers at the proper intervals. In commercial printing, a mixture of water and glycerine is used. In the newspaper printing plant using rubber rollers, a special rubber roller conditioner solution is used.

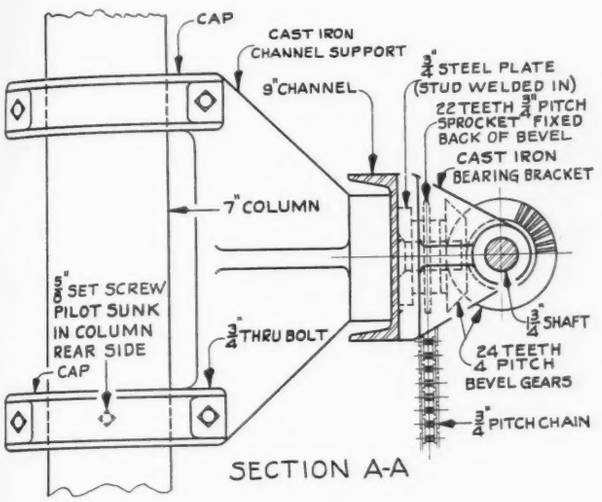
In connection with permanent installations of Frapomist units in the Milwaukee *Journal* pressroom, the water supply will be centralized to eliminate the necessity for frequent refilling of the glass jars in each unit.

Power Transmission Practice at the Lowell Courier-Citizen Plant

By D. L. OVERLOCK*
(As told to Francis A. Westbrook)

A MOST interesting drive in the very up-to-date printing plant of the Courier-Citizen Company, Lowell, Mass., is one whereby two No. 4 Miehle presses are run together for two-color work. This drive has been in successful operation for several years and was originally developed here. Each press has an individual 3½ h.p. slip ring motor. When the presses are connected together these motors are synchronized as nearly as possible by the rheostats. They are also connected mechanically by means of chains and gears as shown in the diagram.

From this diagram it will be seen that each press is connected by means of a chain and sprocket drive to a horizontal shaft through bevel gears. The particular trick in this set-up is to space the presses on the floor in such a way that their beds cross-center at the same instant. It does not matter whether they pass in the same or opposite directions so long as they cross the centers at the same instant. If the plungers on both machines are not always under the same degree of compression the beds (being mechanically connected) will have an uneven motion. That is, there is a very slight uneven motion of each bed when it goes over the center because the plungers enter the cylinders to absorb the shock and strain of the coming reversal of the heavy weight. When the two presses are connected together this slight uneven motion of one press is communicated to the other through the connecting mechanism. If the presses are properly timed they will run practically as smoothly as one press.



In this diagram is shown a very interesting drive whereby two No. 4 Miehle printing presses are run tandem for two-color work. The presses are connected by a chain and sprocket drive to a horizontal shaft through bevel gears. Height of the center line of the overhead shaft to the floor is approx. 8 ft. 3⅝ in. From center to center on a horizontal line the presses are about 29 ft. apart.

Of course, it is necessary to re-connect the push-button controls on both presses so that both machines may be controlled completely from either station. A conveyor has been installed between the two with feeder slow-down rolls at the second press.

The two presses are not always run together in this way. It takes the electrician about half a day, or less, to change the push-button controls either way, so that the full use of the two machines may be had without serious expense for converting them to this new service.

In this plant, all presses are individually motor-driven, and variable-speed control is provided for all units. Essentially this is a very large job shop and it is necessary that it be equipped to handle the great variety of grades of paper called for at the best speeds, in order to be able to produce with maximum economy. This variable-speed control is secured in various ways but to a large extent by slip ring motors. The 220 v. single-phase motors are controlled by shifting the brushes. In some cases, with squirrel cage motors, the press speed is controlled by changing pulleys, using a hand belt tightener to start the press, which is tripped automatically to stop. Mechanical variable-speed control is employed on the plate-whirlers which are operated at a relatively slow speed. These are also equipped with worm gear speed-reducing units.

The large 25 h.p. to 75 h.p. drives for the newspaper, magazine and the roll-fed presses have chain power transmissions. This is because of their high starting inertia and severe braking. Several small press drives are also equipped with chain drives. Vacuum pumps are driven with chains and V-belts. In all other instances, either flat belts or V-belts are used.

All belts are checked over once a week to find out whether they are soaked with oil, too dry or whether they show signs of approaching failure. Those which are too dry are, of course, given a dressing. Those which are oil-soaked are washed out, dried in sawdust and hung up to dry thoroughly. Those which show undue signs of wear are repaired before unnecessary damage results, either to the belt itself or to production schedules.

*Plant superintendent, Courier-Citizen Company, Lowell, Mass.

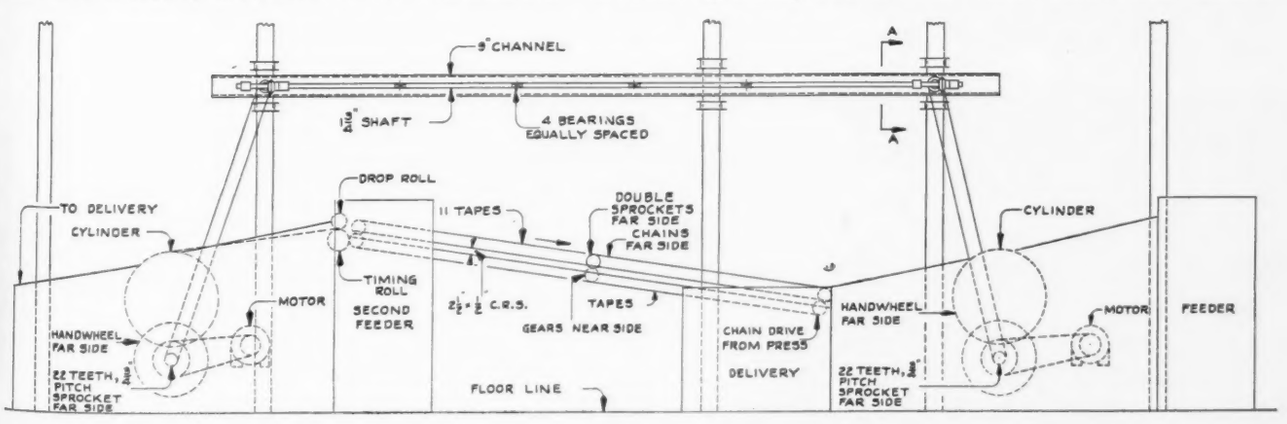
"FANTUM-VU"

An advertising-printing medium called "Fantum-vu", has been developed by Louis P. Hall and Van R. Peterson of Calmar Printing Company, and Jos. H. Cahoon of Pacific Printing Ink Company, all of San Francisco. The process permits removal of a coating of special ink upon which has been superimposed one or more images by rubbing the surface of the top-most illustration with a finger to allow the underposed image to be revealed.

The method is that of an over-print, separated from the basic image by an intermediate coat and an opaquing film. The object first viewed is printed on the opaque film, both of which are removable by rubbing.

"Fantum-vu" is offered as a means of portraying "before and after" ideas and showing details of construction or any concealed areas. One of the first examples of the use of "Fantum-vu" has been produced by the Calmar Printing Company. The product advertised was Calcium Nitrate, a fertilizer. The broadside showed in one spot a weak and stunted tree, which when rubbed, became a healthy and bearing one. The other application showed first a question mark, which when rubbed, revealed the sack of Calcium Nitrate which made such magic possible.

MIEHLE PRESSES HOOKED UP IN TANDEM IN LOWELL (MASS.) *COURIER-CITIZEN* PRINTING PLANT



Summer Comfort

Two major methods for taking moisture out of air to maintain proper degree of relative humidity for bodily comfort and best production.

By GEORGE EMMONS*

AIR conditioning in the printing plant, whether it is summer or winter conditioning, always has, from the ideal viewpoint, two objectives—the facilitation of the work and the maintenance of the comfort and physical well-being of the personnel. Both objectives may be looked at from the angle of dollars and cents. This is more or less obvious, insofar as the printing work is concerned. But, though not so obvious, the maintenance of a good physical condition of the men is just as real a money-maker.

In the winter, men are subject to colds. These have a depressing effect and tend to reduce the vigor of body and mind. In the summer, the heat and the excessive humidity which often accompanies heat play their parts in taking out the backbones of the personnel. A normal man likes to work, if the weather conditions are right. Consequently, the owners of the plant get a good, solid money benefit when their men are alert and eager and fit to do their jobs.

It may take a little brain effort to realize all this. Nevertheless, the management should, upon reflection, become quite conscious of the advantages to their business.

Heat and Humidity

People generally may wonder just why hot weather is so difficult and unpleasant when there is much moisture in the air. Scientific people have also wondered as to the weather conditions responsible for a sense of physical comfort. And some years back, efforts were put forth in order to find out exact answers. These efforts have met with great success. It is now known, with some measure of completeness, just what it is in the condition of the air that promotes a sense of well-being.

For a normal person, bodily comfort is realized when the surroundings are such as to make it easy for the body to maintain its temperature at 98.4 deg. F. When this level is exceeded, we have fever; when it drops below, chilliness sets in. The internal activities of the body are continually heating things up. In the hot weather of summer, there is too much assistance. The temperature over the surface of the skin, under proper conditions, is kept down by the cooling action of the surrounding atmosphere. This cooling results from the power of the air to evaporate moisture on the skin. Evaporation cools. The constant evaporating power of the atmosphere is, in other words, brought about by a *drying* action.

Here is exactly the place where humidity comes into the picture. The air, at any given temperature, will accept just so much moisture and no more. When it will take no more, it has no drying power. The relative humidity is now 100 per cent. The perspiration remains on the skin. There is nothing to take it away that acts automatically. One may use a handkerchief or simply seek to sweep it off with the hand. These efforts are inadequate, since they are localized, and they require attention. The atmosphere is the automatic remover. But at 100 per cent relative humidity, it does nothing. So the man swelters. He is uncomfortable, and cannot exert either mind or body to the best advantage. In other words, he cannot *earn* the money he is paid.

High relative humidities mean inadequate drying—or cooling—power in the atmosphere. You can swelter without 100 per cent relative humidity. In order to get the atmosphere to do its full work automatically, it is necessary to reduce the relative humidity.

This may be done in two ways. (1) The general *temperature may be raised*. This has the effect of lowering the relative humidity, because it puts the atmosphere where it has a higher quota. It can absorb more moisture. Insofar as the printing work is concerned, this method may, within limits, be satisfactory. The paper on the press will become dryer, because the air is automatically absorbing moisture from it. The paper itself may become somewhat warmer. But, who cares anything about that? In the case of the human being, however, this warming up is going in the wrong direction. True, the drying due to the increased absorption of moisture from the skin tends to cool it, but the warming up operates in the direction of nullifying it. There are probably cases when increased warmth even in summer time may make the human being somewhat more comfortable because it is accompanied by the cooling effect of evaporation. This, however, is nothing on which to rely. (2) So, we turn, in the case of human beings, to the method of *taking moisture from the air*, when we prepare to reduce the relative humidity.

(*Continued on Page 37*)

*New York, New York.

Section of pressroom in plant of Woodward & Tiernan Printing Company, St. Louis, Mo. This plant is year-round air-conditioned. Summer dehumidification by Silica Gel system. Summer refrigeration by Frick compressor. Winter humidification by steam spray. Winter heating by steam coils. At the far end of the room is the main circulation fan. Beyond it is the dehumidifying unit. Photo courtesy of Bryant Heater Company.

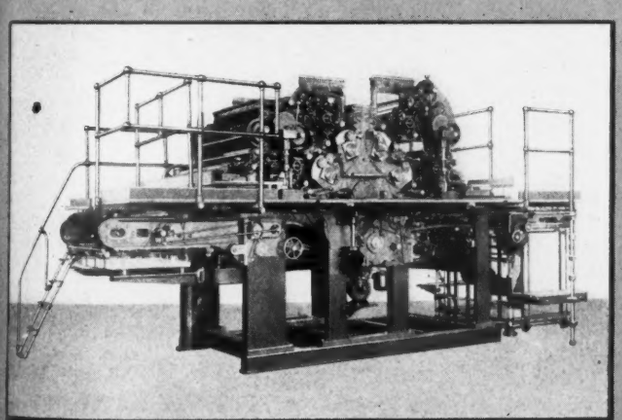
1938 profit formula . . .

four colors and a Cottrell press

It has been said that success in business is merely a matter of producing something that people want —and selling it at a price that they can afford to pay. Certainly this formula applies to the production and sale of color printing. The demand for color in pictures is increasing by leaps and bounds; and publishers and printers equipped to satisfy this demand, rapidly and economically, are in a most advantageous position.

Today, large profits in color printing are not confined to long runs on large presses. With make-ready and other non-productive time reduced to a minimum, comparatively short runs have become entirely practical and highly profitable. Cottrell now offers rotary presses that will handle a sheet as small as 11 x 17; other letterpress units for sheets up to 50 x 72; and the latest rotogravure machines for printing six colors at a time at speeds as high as 15,000 cylinder revolutions an hour.

For dependable profits in color printing in 1938 and the years to come, standardize on Cottrell multi-color presses.



A Typical Cottrell Color Press Construction

C. B. Cottrell & Sons Co., Westerly, R. I.

NEW YORK: 25 EAST 26th STREET • CHICAGO: 332 SOUTH MICHIGAN AVENUE • CLAYBOURN DIVISION: 3713 NORTH HUMBOLDT AVE., MILWAUKEE, WISCONSIN • SMYTH-HORNE, LTD., 1-3, BALDWINS PLACE, GRAY'S INN ROAD, LONDON, E. C. 1

COTTRELL

CITY-COUNTY
WALL ST. PRICES
Snow late tonight.
Newark Evening News
CITY-COUNTY
ESSEX-UNION
Snow late tonight.
NEWARK, N. J., FRIDAY, MARCH 4, 1938—42 PAGES
THREE CENTS
NO. 16,801
Roosevelt's Objective Is Unchanged
Promises to Hold to Original Course of New Deal
Against Privilege
Program Upset
WILLIAM ABERHART,
Premier of Alberta Province,
Canada, whose Social Credit program was upset by court.
Britain Gains Point on Tana
London Source Shows Give and Take on Italian Agreement
Alberta's Credit Act Ruled Out
Canada's High Court Hits Cornerstone of Social Plan
On Every Point
California Searches Debris for Its Dead
Casualty List Still Mounting—Disease Peril
New Fear in Mud-Covered Homes as Water Recedes
Other California flood stories and pictures page 10.
R. P. Scripps, Newspaperman
Dies Aboard Yacht as Did His Father, Founder of Daily Paper Chain
Fear Niemoeller Never to Be Free
German Protestants Learn He Has Been Sent to Concentration Camp
Mother's Offer of Eye Not Necessary
Martens Demands Shake-up
East Orange Mayor Wants Action on Police Report
Four Officers Hit
Arrested
THOMAS E. FITZSIMMONS
Ask Pool Fund In City Budget
Contractors Make Request as Commission Confers on Record Tax Figure
Lawyer Is Taken as Embezzler
Thos. E. Fitzsimmons Accused in S. O. Trust Co. Deals
Statement by Bank
Did Not Measure Up
Argue on Bonus Bill
Merritt Lane,
Spencer Robinson,
Klan Warns
Stickers on Cars of Co
Bring Denunciation
(Text of report page
WINNERS
The Newark Evening News, winner of the 1938 N. W. Ayer cup, is printed with IPI news inks and has been for many years.
The Washington Post, winner of the first honorable mention in the more-than-50,000-circulation class, is also printed entirely with IPI news inks; and the third honorable mention in the same class, The New York Times, is a large user of IPI inks.
While the award is made on the basis of make-up, press work and general typographic excellence, the ink is an important factor in good newspaper printing.
IPI News Inks have been standard for years in many of America's successful newspapers. Its pioneering in the field of color has made IPI Web Color Inks and Comic Colors leaders in this field.
Twenty-eight conveniently located branches are prepared to service your news ink requirements, or address your inquiries directly to the home office. The International Printing Ink Corporation, 75 Varick St., New York City.
FOR EXCELLENCE IN NEWSPAPER TYPOGRAPHY

Actual Practice

This brings us to the practical matter of arranging to get the extra moisture out of the air. In the winter time, it may be necessary often to put moisture into the air. In the summer the situation is reversed. There are two major systems for taking moisture out.

1. *Refrigeration* is employed to reduce the temperature of the air. Every degree the temperature is brought down, the smaller the moisture quota becomes. If the air has, at the start, quite a good deal of moisture in it, we can reduce the temperature to the point where this moisture equals the quota. The relative humidity at this juncture will be 100 per cent. The air is saturated, containing all it will hold. If we go on reducing the temperature, and consequently the quota, there is nothing for the moisture to do but to drop some of itself. In this way, we go on lowering the temperature and getting more and more moisture out. Finally, we get to the point where the absolute total of water in the air is just right for the case in hand. However, the air will be too cold. All we have to do now is to heat it up to the point desired. And there we are.

2. *Absorption* is used to withdraw moisture. That is, one of several substances is brought into contact with the air, with the result that the substance absorbs more or less of the contained moisture. There are quite a number of substances which have this power. Silica Gel is one, Kathene is another. Sulphuric acid is still another. The first named is a granular material resembling ordinary sand. Kathene is a liquid.

When these systems are employed, the advantage, valuable at times, is secured of having a means absolutely independent of refrigerating equipment. When both refrigeration and these de-humidification methods are employed in a single plant, operation may be carried on independently, so that it is possible to run the air conditioning in such way as to do exactly the amount of refrigerating wanted and exactly the amount of de-humidifying wanted. Neither is dependent upon the other.

Further, a de-humidifying system of the type now under consideration may be installed—and little or nothing else. The printing plant can then start a program of air conditioning at a moderate figure, and can subsequently add refrigerating equipment when it feels able financially to do so. In the meantime, it will have de-humidification. This is highly valuable for men and printing, because it takes care of both on humid days. The men, naturally, have to stand the summer heat, but the "sting" is taken out of it when the moisture is cut down. People can stand a good deal of heat—and cold, too—provided the atmosphere is dry. The presses can ordinarily run with success, too, when excessive moisture is removed. So, while it would be absurd to pretend that, with de-humidification alone, we have all the benefits of air conditioning, we do get a solid advantage over the natural weather in the summer time. This advantage will vary in importance with the climate. De-humidification is, I imagine, not particularly desirable in Tucson, Arizona, in the summer. On the other hand, it becomes desirable in many localities in the Southern States, and other regions. Mention may be made of such cities as New York, Chicago, Philadelphia, Cleveland, St. Louis. A temperature of 95 deg. F. is not so bad in such places, if you can really cut down the humidity.

A word or two as to the Silica Gel procedure. In general principle, the Kathene method is much the same. Silica Gel is a manufactured material similar to granules of clear quartz. But it is very porous. So it has a big total of surface in a moderate quantity of material. Moist air, when brought into contact with the surface, is adsorbed—that is, it sticks to the material. It sponges the water out of the air—and there you are. The adsorbent material can be used again and again. All you have to do is to heat it up and get rid of the adsorbed moisture. Naturally, this must be done in such a way as not to deliver this moisture back to the air. The system is automatic. The cost of operation is expended principally upon fans for moving the air through the machine and directing it where wanted; and for gas or oil to feed the heater which renovates—reactivates—the moisture laden material. The Silica Gel system is new, but not so new as not to have proved itself in commercial operation. It has been installed in many locations, including places in Bahia in Brazil, Rio de Janeiro. The Waverly Press, Baltimore, employs the system to prevent variation in the height of halftones mounted on cherry blocks.

There are many manufacturers of air conditioning systems. It is well to look sharp, when considering any proposal, to ascertain previously what the equipment will do. Complete air-conditioning includes: (1) Summer refrigeration; (2) winter heating; (3) summer de-humidifying; (4) winter humidifying; (5) all-the-year air distribution; (6) all-the-year air purification. Further refinements consist of such things as ozone generation and ionization of the air.

Equipment varies from that necessary to handle the air conditioning of enormous buildings from roof to cellar—such buildings, for example, as the New Metropolitan Life Insurance Building, New York City—down to cooling or de-humidifying single rooms, or providing both for such rooms. In fact, it is possible now to get an air conditioning installation just adequate to take care of a screened-in part of a room.

The simple electric fan, competent to blow air around, is often quite good. Only, it may create an objectionable draft; and on really hot days may do nothing more than blow hot air on you. The main points for comfort and also for the operation of presses, etc., consist of temperature control and moisture control. Circulation may be added, as it is best obtained when under severe control—no drafts—but a gentle movement of properly conditioned air.

There are a number of ways of getting refrigeration. Gaseous refrigerants may be employed. The gas is compressed by a power-driven compressor. It is conducted away by tubes and allowed to expand. This expansion withdraws heat from the surroundings. Ammonia gas is much used for this type of refrigeration. The cooling at the place wanted may be done by carrying the piping to the location. It may also be done by leading the piping to a near-by tank room, where the cooling is employed to cool water or some other liquid. This chilled liquid is then pumped through piping to the room where refrigeration is wanted. But, instead of taking the chilled liquor to the rooms, it may be used at a central point—in a "bunker" room—to chill the surrounding air. This air is kept in circulation by blowers. It passes into the bunker room, is chilled, then passes out and is conducted to the desired location, where it may be distributed by long ducts. These may be arranged overhead and will be provided with openings—"outlets"—through which the air reaches the upper part of the room.

Consult the P-Double-E Printing Equipment and Supplies Index when in need of information about the maker of something you need for production use.

New Home

Of Lincoln (Neb.) *State Journal* to be modern example of newspaper building architecture and production equipment arrangement.

By LUCRETA GAISER *

THE new building that will house the printing, stereotyping and press equipment of the *State Journal* at Lincoln, Neb., it is claimed, is the last word in modern newspaper building architecture. Two stories high with a basement, the structure occupies a space 56 ft. by 100 ft. at the rear of the old building which has been the home of this newspaper for 53 years. Provision has been made for future construction if the need arises. With re-enforced concrete skeleton, the exterior walls will be of glass brick and Bedford stone. Floors are to be of wood block, ceilings of acoustic plaster, walls of tile and air-conditioned throughout.

A new 80-page, 5 unit, Goss press with substructure and reversible units for color, and all new stereotyping equipment will be installed. A new Model 30 Linotype will be added to the battery of machines in the composing room. This machine, with eight fonts of type and 14 split magazines, makes available 22 type faces to one operator.

Two rows of line-casting machines will form L's along west and north sides, with the machinist's room in the corner. This room will contain, besides the standard work bench and other things peculiar to the Doctor of Mechanics, a Monotype and an Elrod, the latter a new addition.

At one end of the composing machine section will be the ad alley, equipment for which includes two Ludlows and two portable saws. The electric control panel is in the wall and each machine is fused individually. Provision has been made for possible expansion of four machines.

The foreman's desk, proofreaders' table, bank and proof press, will be located in the center of the composing room, with makeup tables and turtles placed conveniently between the composing room and stereotype department.

The new arrangement will be of great advantage to the job composing room, which has always been located on the floor below the composing machines. The job room will remain in the old building and will be contiguous to the new composing room.

The editorial rooms are adjacent to the composing room, located in the new building, the south and west end of the old building's second floor being set aside for use of the editorial and news staffs, press association offices, dark camera and file rooms. Quarters for the editor, editorial writers, sports and society departments will open into the large news room. There the news editor will have grouped about him the telegraph and city news departments, with reporters' desks at convenient distances. A basket copy carrier will have a terminal near the news editor's desk.

(*See Diagram Page 40*)

* Mr. Gaiser is associated with the *State Journal*, Lincoln, Neb.

GE's 1938 Orders

President Gerard Swope announced recently that orders received by General Electric during the first two months of 1938 amounted to $41,348,000, compared with $64,229,000 in the similar period last year, a decrease of 36%.

Some of the Business and Production Executives, Lincoln (Neb.) *State Journal* Plant

FRED SEACREST
Vice President and Business Manager

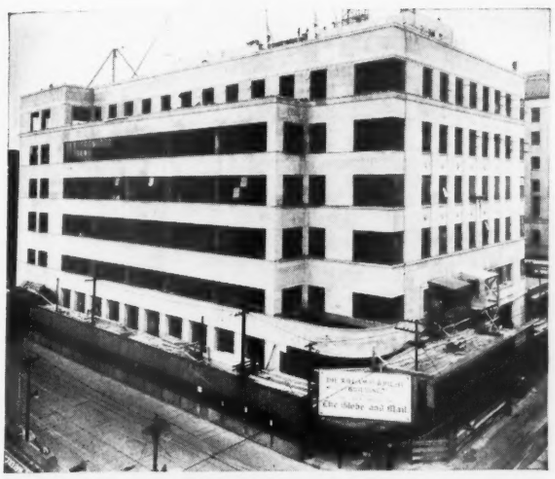
J. R. DUFF
Composing Room Superintendent

R. H. SEIDEL
Composing Room Night Foreman

A. W. MUDRA
Chief Composing Room Machinist

"Get the Paper Out!"

YOUNGSTOWN VINDICATOR



TORONTO GLOBE & MAIL

GREEN BAY GAZETTE

- - - that's still All 10 Commandments

PUBLISHERS are people, statesmen, patriots, civic leaders . . . But first, last and all-the-time, publishers are newspapermen. There is not one from Ben Franklin down, whose epitaph might not fittingly and commandingly read: "Get the paper out!"

Every new newspaper plant is a monument to civic pride, to the publisher's faith in his fellows and his country and himself. And to the very limit of his resourcefulness, an ornament to his profession; for outward grace can never be more than a symbol of inward efficiency. As prestige grows, so grows the inner voice commanding, "Get the paper out!"

One common denominator in efficiency in the three plants pictured here is Kemp Gas Immersion Melting of stereotype metal. And it is hardly an accident when three new plants as widely separated as Ohio, Wisconsin and Ontario select the same new method of stereo melting. Each one of these Kemp installations is guaranteed to save 40 percent (or more) in fuel, and to speed things up, day in and day out when it's time to "Get the paper out".

What Kemp does for others, Kemp can do for you. You are invited to write for details. Address . . . **The C. M. Kemp Mfg. Co., 405 East Oliver Street, Baltimore, Md.**

KEMP of BALTIMORE

Composing Room and Stereotype Department Equipment Layout in New Building of *State Journal*, Lincoln, Neb.

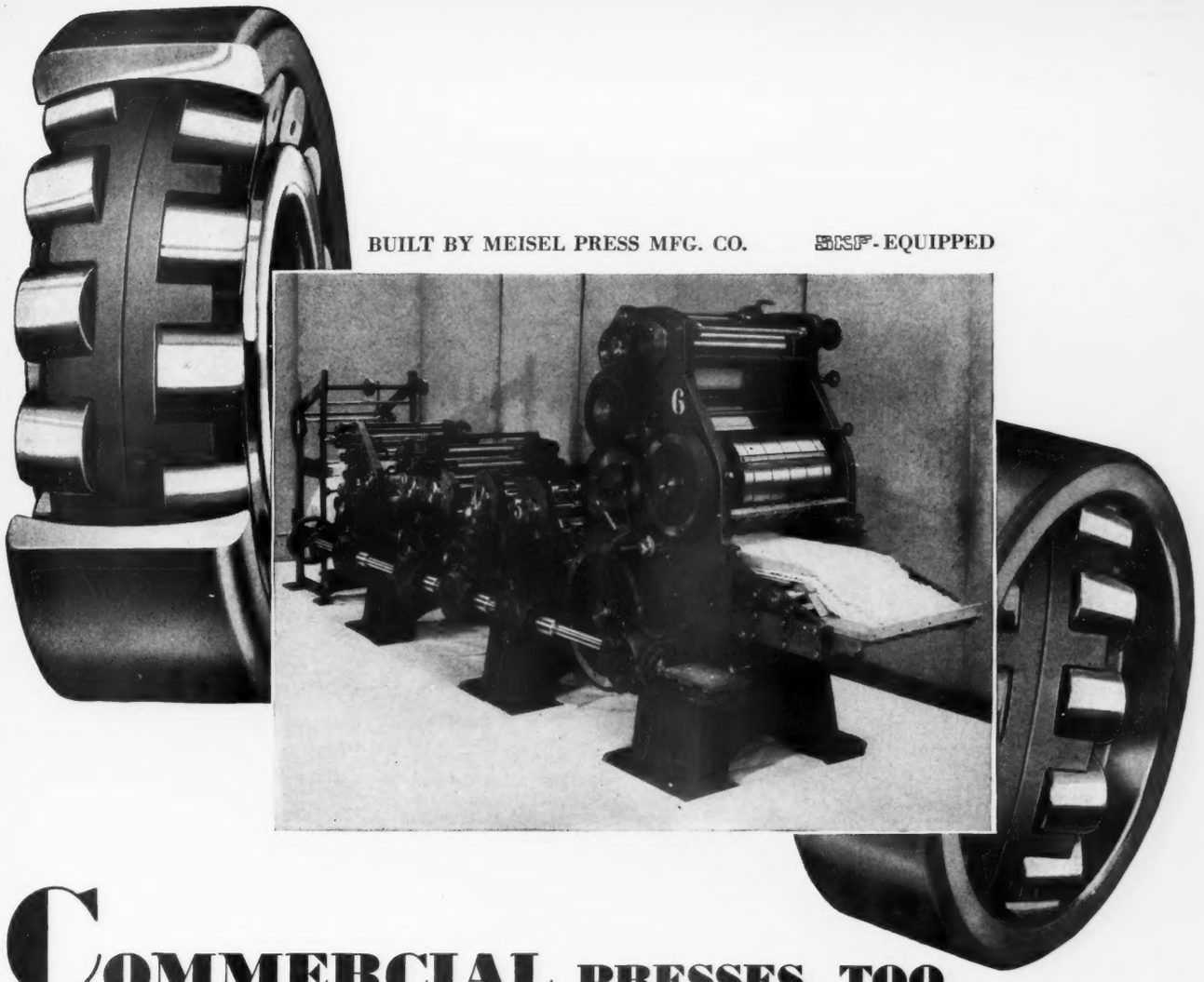
Story on Page 38

This is a rather interesting, diagrammatical sketch of the proposed composing room layout in the new building of the Lincoln (Neb.) *State Journal*. Barring any hidden layout obstacles which may not appear to the reader in the way of pillars or elevators, it seems to

ing alley" type of production line, copy seems to flow without lost motion. Note the portable saw-trimmers in the ad alley between the type cabinets. A miterer and material cabinet are adjacent. The news and ad machines have been located nearest the points where each kind of composition is to be delivered. Considering there are fifteen machines the location of the machinist's

machines, should make it convenient for the machinist to service operators' calls quickly. Fortunately, according to the diagram, there is plenty of room for the makeup department without crowding or interference of any kind.

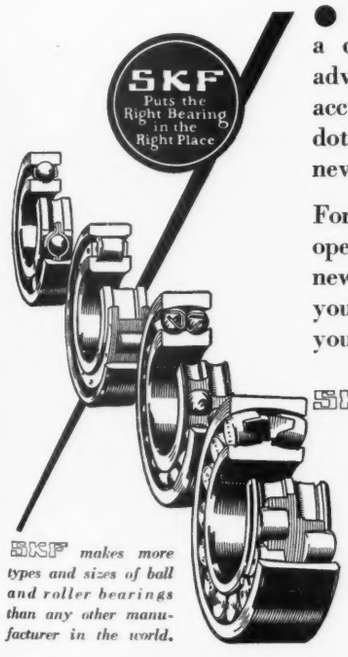
The arrangement of equipment in the stereotype department provides for fast plate production by a sort of inverted V route from the mat roller to the plate drop.



BUILT BY MEISEL PRESS MFG. CO. SKF-EQUIPPED

COMMERCIAL PRESSES, TOO

DEPEND ON SKF BEARINGS



SKF makes more types and sizes of ball and roller bearings than any other manufacturer in the world.

● Whether you're in the press room of a metropolitan daily or in a commercial printing shop, you will notice many outstanding advantages of presses that depend on SKF Bearings. They assure accurate register... give clean reproduction of the finest halftone dots... run at extremely high speeds with low operating costs... and never stop for bearing adjustments, constant lubrication—WEAR.

For almost a quarter of a century, SKF has pioneered and developed the application of anti-friction bearings not only to giant newspaper presses but to commercial presses as well. That's why you use "the pioneer bearing of the printing industry" whenever you build or operate presses that roll on SKF.

SKF INDUSTRIES, INC., PHILADELPHIA, PENNA.

4154

SKF

BALL & ROLLER BEARINGS

Letters

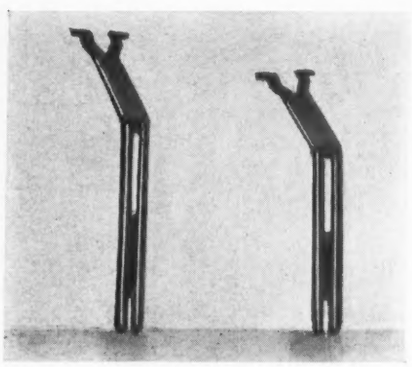
To the Editor

Spaceband Wedges Bent to Left

DEAR Editor—After reading Mr. Dent's letter in the January issue of *Printing* Equipment *Engineer*, regarding the justification bar brace and his comments on the cause of bent spacebands, I marked the page and waited before writing until I had more definite proof to the contrary.

When I read the following statement in his letter: "I have read several articles on this subject—some with amusement and some with utter disgust," I wasn't sure at just whom he was laughing.

I quote from another part of Mr. Dent's letter: "Have you ever seen wedges bent away from the sleeve?" Evidently he didn't seem to think spacebands were ever bent towards the left. Well, after waiting for three months



my patience was rewarded recently when I was called into a neglected five-machine plant and found one of the troubles was bent spacebands. Enclosed is a picture of a couple of the spacebands I found there, the wedges of which were bent towards the left[1], which is evidence that it *can* happen.

Regardless of what some may think, it is a definite fact that this trouble has occurred when setting one-spaceband lines. In the majority of cases these are necessarily tight lines. Naturally, the wedges do not get much if any drive and occasionally slip on the inclined surface of the driving block—at least they have in Chicago.

It is true that spacebands are usually bent towards the right. If the end of the justification bar brace is worn badly it is possible that it may pull part way out and become wedged, leaving the driving block cocked at an angle sloping downwardly towards the right. I have seen this happen. Of course, in this condition the wedges will naturally be bent towards the right.

This same trouble may also be caused by the lower end of the delivery slide short finger being bent towards the right. This condition may allow the line of matrices and spacebands to enter the first elevator head at the same angle as the short finger. In this plant I visited recently, I actually saw a line descend to the casting position with the wedges hanging at an angle towards the right.

Now, in this condition the bands could easily be bent, especially if the line was a loose one and if the brake on the long finger was not functioning properly, or if the delivery slide "slammed" violently against its stop.

For many years I have been putting a 3/16 in. collar on the upper end of the brace, or have even put a pin through the driving block and the upper part of the brace, to keep the driving block in a horizontal position at all times and have never had any trouble with bent spacebands since doing that.

For this I may be criticized, but I have noticed that on the latest linotypes, when the justification levers rise to full stroke, the driving block is in a horizontal position on the first as well as the second justification. The second justification lever, however, causes the block to rise with a rocking motion and oftentimes drives higher on the left—than the right-hand side.

Under the present condition, the spacebands are all driven up at a uniform height on the first justification and so it seems unnecessary to me to have the driving block come up the second time with the same rocking motion as the first.

The double hump on the second justification cam causing the double drive of the second justification lever, therefore, seems unnecessary to me, especially at the instant of the second justification, because all the spacebands have already been driven up the same height.

The present action of the justification levers (on the linotype) would seem to justify my ideas of having the spaceband driving block come up in a horizontal position. With the driving block in a permanent horizontal position, I venture to say we could dispense with any assistance from the second justification lever for justification purposes. Of course, the justification rods should be kept well lubricated and the space bands should be graphited after every run.

In the plant of the Western Newspaper Union, here in Chicago, I am running four linotypes equipped with Teletypesetters operating at 8 lines per minute. In nearly two years time, I have never had a bent spaceband or any justification trouble. Our double-column matter is set 25 and 27 ems. The double-column matter runs equally as well as the single-column matter.

Regarding the worn ends of the justification bar braces, let's get down to the actual crux of the matter. What causes the ends to wear so quickly on some machines?

If one will investigate thoroughly, he will find this trouble usually is caused by either a badly worn second justification cam, a worn second justification lever cam roller, or one with a flat on its surface, or it may be caused by an oversize cam roller in the first justification lever.

In either case, the first justification lever may be pulled down while the second justification lever is still held up, causing the end of the brace to become worn quickly. I once saw a new brace ruined in three months time because of an oversize roll. The first justification lever had become sprung on this machine and the oversize roll was used to prevent the bottom of the spaceband wedges from striking the driving block as the line descended to casting position in the rise.

Thus, I have always found that any abnormal wear of these brace ends was due to the fact that the justification levers were not descending in unison. But why go to all the pains of repairing these braces when you can asten the upper end of the brace to the driving block and still get good results and stop the bending of spacebands permanently?

The new-syyle braces have a deeper notch and a larger screw and should not wear as quickly as the old-style braces.

HARRY G. POTTLE.

[1]EDITOR'S NOTE—*The accompanying illustration was made from a photograph taken by Mr. Pottle, but it is only fair to our readers to state that the photo was retouched by our artist to enable our photo-engraver to obtain a contrasty reproduction.*

Employment Service

Department

Employers, production and mechanical executives may insert notices in this department.

Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* Equipment *Engineer*, 1276 West Third St., Cleveland, O.

WANTED TO TAKE CHARGE OF MONOTYPE DEPARTMENT—(Operating Executive)—Extensive Commercial, Trade Plant, Advertising Typography experience. Skilled, versatile, intelligent, efficient, reliable. Clean proof guaranteed. Will accept subordinate situation where advancement is assured within definite period. It will pay a high-grade plant to investigate what I have to offer. Union. Married. Reply Box 51.

PRESSROOM FOREMAN—Color and black printing, 18 years experience. Desires either small daily foremanship or circular plant. Reply Box 52.

Intertype Exhibit

An exhibition of the new Streamlined Eight-Magazine Text-Display Intertype Mixer equipped with Automatic Quadding and Centering Device and the new Six-Mold Disk is being held at the offices of the Toronto Type Foundry Canadian Distributors, 120 Wellington Street, West, during the week of June 6. The exhibit, especially arranged for visiting executives to the A.N.P.A. Mechanical Conference, displayed this Intertype model for the first time outside the United States.

Offset Demonstration

Rutherford Machinery Co., Div. of General Printing Ink Corporation, exhibited early in May in its Rutherford Display Room, the complete process of offset-lithography from the customer's copy to the completion of a job. In the demonstration using Rutherford equipment, photo-lettering machine reproduced lettering and type matter. From a rough layout, the job was run on the machine, developed in a dark room, and a reverse print made. Using the copy prepared on the lettering machine, a multiple negative was made on the precision camera. By using the automatic shutter, the negative was stepped and repeated the required number of times. The vacuum frame and whirler also came in for short discussion. The next step consisted of preparing the press plate on the photo-composing machine. The plate was developed, placed on the high-speed offset job press and run off.

This *New* Model Series C CHALLENGE PROOF PRESS

Takes a Full Size Newspaper Page

A worthy addition to the Series C line of Challenge Proof Presses, this new model 2025-C will take a form 19½x24 inches . . . handles 8-column, 12-pica, pages . . . turns out perfect proofs of full-page ads.

It's modern in design, compact, easy to operate, precision-built . . . equipped with a special Challenge Power Ink Distributor that speeds the inking of hand rollers and promotes improvement in proofing.

Two smaller sizes of Challenge Series C Proof Presses are available: 1418-C to take a form 13½x17 inches and 1425-C to take a form 13½x24 inches. All three models have a removable galley plate, so that proofs may be pulled from galley or type form.

PRESS PROOF *Quality With* . . . . PROOF PRESS *Simplicity*

No tedious, tiresome hand rolling. No spotty proofs. No re-proofing. With the special Challenge Power Ink Distributor, you just snap on the switch, set the roller on the revolving metal distributing cylinders, and you're ready to ink the form. Easy to wash up at night.

Operating on the same principle as your cylinder press, the new Challenge Series C Proof Presses produce better results with less time, effort, and preparations. Proofs are easier to read—show more clearly what the printed sheet will look like—get quicker OK's—encourage good will. Bad letters, errors and high spaces are easily detected.

The bed rolls smoothly on Challenge anti-friction bearings. Accurate, unyielding impressions are assured. An all-steel stand provides large, roomy shelves for proof paper, ink and other supplies. The ink distributor and stand are optional equipment. Without the ink distributor, the cylinder cover serves as a convenient full-size ink plate. It can be quickly removed for changing the cylinder packing. Write today for full data and prices.

THE CHALLENGE MACHINERY CO.

GRAND HAVEN, MICHIGAN

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Agents for Great Britain — Funditor Limited, London, E. C. 1

F. 736

Coordination

Executive discusses duties of newspaper mechanical department supervisor in order to get production cooperation

By LEON A LINK*

BETTER coordination of the mechanical departments is one of the big problems of newspaper publishing that has not been given enough attention by the management of most newspapers. Many have been able to absorb losses resulting from the lack of this coordination, but a number of these same newspapers will, of necessity, give this problem more attention in the future because of increased costs of operation and the development of competitive enterprises.

Mechanical department heads and their departments are important cogs in newspaper manufacturing processes. Each department should be properly coordinated with the others if an efficient job of operating the plant is to be accomplished.

Leon A. Link embarks for Council Bluffs, Iowa, from Cleveland Airport.

The business branch of newspaper making coordination is practiced quite generally and where a good job is done, it is effective. But in too many instances these same newspapers seem to expect the mechanical departments to function individually without any attempt at coordination. Maybe I should say they expect automatic coordination, without anyone being made responsible for the coordination.

It seems to me that in every large newspaper plant someone should be in charge of the mechanical operation who has the ability and authority to coordinate the different departments. You can call him a mechanical superintendent or a production manager or whatever you wish. His services are an important factor in the efficient operation of the plant.

Some may feel this is not so important in the smaller plants. Even though it may not seem necessary to employ a man for the job, there still is need for this coordination. In the smaller plants the problem may be met somewhat successfully by having regular mechanical conferences of the department heads.

There is no one person who has the answers to all the problems in the mechanical departments. To be a successful coordinator of departments a person does not necessarily have to know how to perform all the detail work in the composing room, the stereotype department, the pressroom and the engraving department. He should have a general knowledge of the operation of these departments and surround himself with competent heads of each department—men who have had experience in that particular line of work and who also know how to deal with men in their departments. It is his job to get these department heads and the employes in each department functioning in coordination with the others. He should possess institutional spirit. He can do no better work than to get that institutional spirit into the hearts of the men who head the different mechanical departments and they in turn assist in selling it to the individual employes. I think the mechanical head should also familiarize himself with the problems of the sales and editorial departments.

There was a time when many of us knew more about the coordination of the mechanical departments of a newspaper than we do today. That experience taught us that there are problems in each of the branches and gave us a better understanding of the operations.

Today the boy starts in the composing room, pressroom, stereotype department or engraving department and that is where he stays. He often sells himself on the idea that he and his department have all the grief. Many printers who have worked in composing rooms for years have never been in the pressroom or engraving department of the papers where they are employed. The same is true of engravers, stereotypers and pressmen.

You will be surprised, if you will do a little checking around the different departments. You learn how little many of the men know about the other mechanical departments. It's part of the coordinator's job to encourage these fellows to crawl out of their shell and find out what is being done in the other departments. They should be made to know the difference between a print shop and a creamery.

We can not bluff our way through. When we, as the coordinator, attempt to tell every department head how everything in his department should be done we will find that our bluff is soon going to be called. We can advise with the department head and we should ask questions, but let's be honest enough with the department head and ourselves to admit that we are asking these questions because we do not know, or at least are not sure. If we don't admit it, he will soon find out we don't know, so we might as well start off fairly with him. If we do that, the department head and the mechanics are more apt to tell us many things we do not know. It's educational to the coordinator. When we have gained their confidence they are going to be more loyal and that will place us in a position where we can accomplish more. The coordinator should always deal the cards face up. When you don't you generally get caught. That causes loss of confidence and respect. I believe this also applies to the different department heads in their dealings with those employed in the department.

As a rule, the skilled newspaper worker has devoted his life learning his particular branch of the business and it is his only experience and his most valuable asset for earning a living. If the business does not prosper and, as a result, he finds himself without employment he has lost the opportunity to earn by doing the only thing he is trained to do. The newspaper worker will succeed or fail as the business succeeds or fails. The attitude of employes has in some instances wrecked newspapers and in other instances it has been a great factor in building successful newspapers.

It seems to me the coordinator of departments should be continually contacting each department. It is good for him and it is good for the department. Department heads, who are doing a good job, like to see the boss. They like to have him come into the department and look it over. They have things on their mind they want to show him and talk to him about. They can do it better if he is in the department. He will understand it better if he is where he can see as well as hear about it. Frequent contact is one of the things necessary to bring about better coordination of the departments.

I believe there is less being done to coordinate the mechanical departments in newspapers than in any other major manufacturing industry. No matter how good our equipment may be, no matter what the wage scale paid, no matter how fine a building the plant may occupy, it is necessary that we do our best to develop the right attitude on the part of employes and do a good job coordinating the departments if we are to get the most satisfactory results.

There has been considerable printed in the trade publications lately about setting up a central laboratory for research and experimental purposes. Certainly there is need for that in the newspaper mechanical departments.

I will mention a few common standards in the processes used, standards for which are lacking.

Can anyone tell us definitely the proper screen for a halftone cut for newspaper work? Some favor 65, some 75 lines and there are some who use a much finer screen.

Every newspaper mechanic knows, or should know, a halftone cut to be well printed should leave the composing room mounted on the proper base. We know that after forms have been rolled, certain kinds of base are found to be from 0.001 in. to 0.003 in. low. We do not know how far it actually goes down during the rolling process. All we know is how much it is down after the pressure has been relieved. Maybe where underlay is put under the cut it goes down as far or nearly as far as the thickness of the underlay. Some technical tests might give us some information regarding that and we might learn a lot about the proper base to use under cuts.

The stereotyper, like the rest, has to do considerable guessing and there are differences of opinion regarding the processes and practices.

In the pressroom many different kinds of blankets are used. Pressmen are more or less dissatisfied with the results secured and they

(Continued on Page 84)

Composing Room Superintendent, Akron Times-Press. *Abstract of address delivered before the Iowa Mechanical Conference, Council Bluffs, Iowa, May 16 and 17.*

H. ARMSTRONG ROBERTS

What's the Big news?

Ask HUBER *about* **HUBERTONE** *ink.*

Gingerbread

(*Continued from Page 31*)

from these pots would create a very uncomfortable condition unless adequate ventilation was provided. For the greater part of the time the problem is one of cooling, making it necessary to introduce large quantities of cool air to the room. The machine operators are in the habit or working in very light clothing, and are consequently susceptible to draughts. This was overcome by introducing the air through grilles around the columns at a maximum velocity of 100 feet per minute, this cooi air passing over the floor and rising to the exhaust outlets at the ceiling.

Engraving Room Air-Conditioning

Every endeavor has been made to insure satisfactory working conditions in this department on the fourth floor. A complete air-conditioning unit has been installed in the fan room on the seventh floor, with an exhaust fan on the eighth floor. Due to the nature of the chemicals used in this department, no air is recirculated and all air is drawn from the outside before being filtered, heated and humidified in winter or cooled and dehumidified in summer. The ductwork has been fabricated from aluminum sheets in place of the conventional galvanized iron, which is subject to corrosion from the fumes generated.

The radiation in this department is controlled by thermostats which are set to close off the steam at 74 deg. Fahrenheit. When the temperature of the room rises above this point the same thermostat opens a valve on the cooling coils in the main supply unit and admits cold water to cool the air.

The Composing Room

The composing room on the third floor is supervised by Archie Johnston, Jr. In this department there are several interesting features, one of the most interesting of which is the manner in which the 36 Linotype and 1 Intertype machines have been laid out in fan-like formation. The idea is to conserve steps for the operator in his movements to and from the copy desk and composing machine. The machines are so arranged that no operator need walk more than 50 feet. James Harrison, Mechanical Superintendent, states a machine may be removed and replaced with a new one from any position in the battery without moving any other machine. The machinist's signal system board is above the copy desk in plain view from any position.

With respect to the peculiar requirements of the composing room, a survey showed that this department requires 60% more air conditioning than any other department to carry off heated air arising from the metal pots as well as the "spent" air from the 90-odd employees working in the room. Ventillating grilles are set into pillars in the center of the floor. By means of shutters or louvres the air coming out of these grilles may be sent in any direction by twisting a knob. If desired, the air may be shut off altogether.

The layout in the composing room is so designed that the work constantly flows toward the center of the room. After forms are made up they are shunted to the stereotype mat molding machines opposite the center of the room.

Composing room floor area is 14,400 sq. ft. Floor is cement.

Remelting facilities for the composing room include a Kemp Gas System heating equipment, electrically controlled. The remelting pot is of 2-ton capacity.

In the Monotype department, two material makers and one combination material and type caster are used.

Three Ludlow machines are used in the ad alley for display purposes.

Linotypes for ad composition are situated directly in the ad alley for accessibility.

In the makeup section in the composing room, prismatic lenses of the type used in the pressroom (Edison mazda high efficiency bi-post lamps) are used. Intensity of the light emitted is 40 foot candles. All light is indirect to avoid glare and consequent eye strain.

The composing room ceiling is treated with acoustical plaster to deaden noise.

The proof room in charge of Chief Proofreader William A. Lahey, actually is a room within a room to insure quiet atmosphere for the proofreaders. Its walls are double-glazed. No-glare lights having an intensity of 45 foot candles provide plenty of illumination. No individual lights of any kind are used.

Stereotype Department

David Marshall superintends the stereotype department. The Hoe mat rolling machines and job work equipment are located on the composing room floor level. The foundry, however, is located on the pressroom floor level. Eight plates per minute can be conveyed from the Autoplate machines to the presses via Jampol plate-handling system. Kemp Immersion Gas System is used with the 10-ton metal melting equipment. The carburetors for the melting equipment are located in a separate room in the basement. Wood Twin Junior Autoplate machine, Wood Shavers, Hoe Router and Plate Shaver and Sta-hi vacuum formers make up part of the equipment. Flooring in the foundry is Ferulin iron.

Novel Sink in Photo-engraving Department

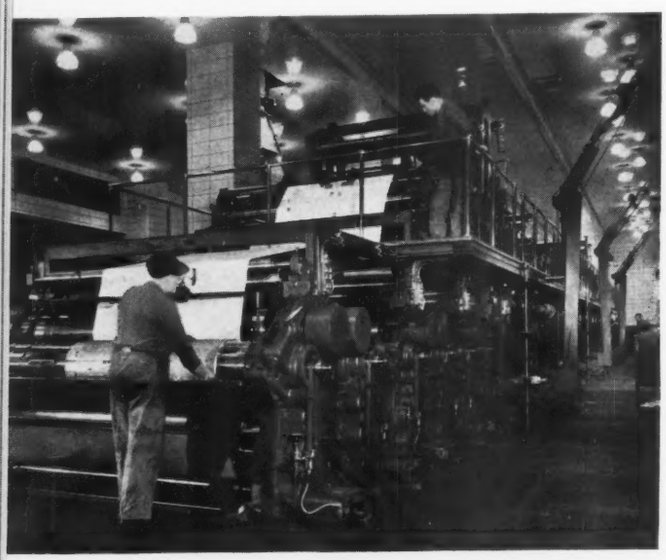
One of the innovations in the new *Globe and Mail* plant is a sink in the photo-engraving department. The feature of this sink is that its inside edges are provided with a sort of lip extending approximately 2 in. from the edge. Through slotted openings under the lip fumes arising from the sink are drawn through a duct by an exhaust fan. The idea was worked out by Photoengraving Superintendent David Edwards and Mechanical Superintendent James Harrison. With the metal canopy idea overhead the sink, fumes would be drawn upwardly near the face of the engraver. With the lip exhaust idea, however, fumes are drawn away from the sink the moment they arise from the solution.

The Pressroom

The *Globe and Mail* pressroom on the first floor and sub-basement is a model in everyway. Roy Stubbs superintends the department. The walls are lined with industrial tile. The pillars to the ceiling in the upper section of the pressroom are of blue and cream tile. The ceiling is finished in ivory enamel.

By actual test with light measuring instruments, there is no spot in the big pressroom where the light intensity is lower than 25 foot candlepower. Directly under the flood of light pouring through prismatic reflectors about the bulbs, the volume of illumination shows 32 foot candles.

Interpreted in layman's language, that means approximately the same volume of



View of pressroom (upper level) in new plant of Toronto Globe and Mail. *By means of the lighting system there is ao spot in the pressroom where the light intensity is lower than 25 foot candles. Flood of light pours through prismatic reflectors. Through units fixed in the structural columns, more light floods directly into the press machinery. Floor is industrial wood paving blocks laid end-grain up. Immediately surrounding the press floor is covered with non-slip Ferulin iron. Walls are lined with industrial tile. Pillars to ceiling are of blue and cream tile. Ceiling is finished in ivory enamel.*

View of news Linotype composing section of Toronto Globe and Mail *composing room. General illumination is 40 foot candles from Edison mazda high efficiency bi-post lamps. Ceiling is treated with acoustical plaster to deaden noise. A survey made before the new building was erected, showed that 60% more air conditioning is required in the composing room than in any other mechanical department. Air flows into the composing room from structural column grilles at the rate of 100 ft. per min. See equipment diagram layout for fan-like position of news composing machines.*

for NEWSPAPERS

FELT BLANKETS

Felt Blankets can be furnished regular or with polished surface (No. 73). Both types are highly resilient, uniform in thickness, free from bolstering and ghosting, and very durable.

NON-FELT BLANKETS

Non-Felt Blankets are available, too, with an oil-proof polished surface. These blankets are especially good for pictures and solid blacks.

E. D. BLANKETS

These blankets also are especially good for picture pages. They are used by one of the leading tabloids.

DRAW SHEETS

Vulcan Draw Sheets can be furnished regular or with polished surface. Can be used with various cylinder packings but are specially recommended for use with Vulcan Cork and Laminated Underpackings.

LAMINATED UNDERPACKING (No. 62)

For newspapers which prefer a rubber-like underpacking. Soft, resilient, and durable.

CORK (No. 76) UNDERPACKING

Used with felt and non-felt blankets and in draw sheet combinations. Does not crack or dry out and become hard.

VULCOLASTIC ROLLERS

Much softer than rubber rollers, Vulcolastic Rollers work best at a very light setting. They are entirely unaffected by inks, driers, temperature changes, etc. Vulcolastic Rollers forestall operating troubles and promote better distribution and better presswork.

for COMMERCIAL LETTERPRESS PRINTERS

VULCAN GELASTIC ROLLERS

These remarkably successful rollers prevent press delays due to troubles such as the melting of rollers, hardening, cracking, face peeling off, mushy print, etc. Gelastic Rollers are unaffected by either hot or cold weather—and they have the softness and inking qualities necessary for good distribution and good printing.

VULCAN MAKEREADY BLANKETS

These blankets effect a substantial reduction of makeready time. The face of this blanket is Vulcan's patented oil-proof material. It is flexible, yet has a degree of firmness that helps to produce a clean, sharp impression.

for OFFSET PRINTERS

NEW No. 43 BLANKET

No. 43 is proving remarkably successful on multicolor work, commercial printing, photo-offset, and especially for offset printing in which hairline register is required. Other popular Vulcan products are the Red Blanket, recommended for metal decorating and also used as an all-purpose offset blanket, and the Vulcan Black Blanket, Style 808, which is widely used for halftone work.

LITHOLASTIC ROLLERS

These rollers are absolutely unaffected by oils, driers, heat and cold, humidity, etc. No hot weather troubles, no stickiness, no swelling. They have just the right "tack" for good distribution and good presswork.

WRITE FOR PRINTED MATTER ABOUT THESE AND OTHER VULCAN MONEY-SAVERS

"Not a Speck of Gingerbread and Cheese"

Ken W. MacTaggart, member of the editorial staff, set about describing the magnificent new building of the Toronto Globe and Mail. *The general impression received by those viewing the building for the first time, writes Mr. MacTaggart, is as follows:*

"High over the doorway, where hidden lights cast a soft suffusion of illumination which swept up and up and then faded from the suave stone into the violet of the night sky, stainless steel letters bore the legend, 'The Globe and Mail.'

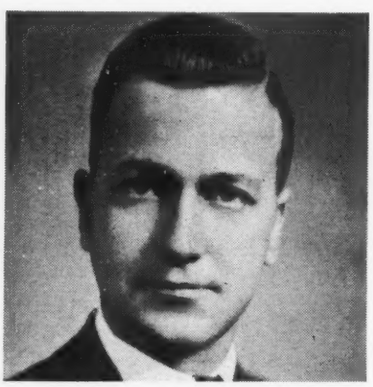
"At each side of the doorway, plainly readable even in the twilight of King Street, were the words, 'The William H. Wright Building.'

"From the little group of gazing spectators, clustered at the curb while they stared at the embodiment of all that could be conceived in building excellence, came a voice:

" 'Not a speck of gingerbread and cheese. Just fine building. Boys, I'm telling you, it's all fine building.' "

light given out by the sun at 4 p. m. of a summer's day.

How is it done? The prisms that deflect the light from the bulbs in the ceiling give the flooding effect. Column lights (units fixed within the structural columns) flood more light into the press machinery.



JAMES HARRISON
Mechanical Superintendent

There is not the slightest necessity of using extensions to examine any part of the inner mechanisms of the presses. What the ceiling fixtures do not illuminate, the column lights do, and it is said to be the only pressroom in Canada and one of the few pressrooms on the continent that are so equipped.

In the reel room below the presses, there is near the base of the presses a strong intensity of light, while a few yards over to one side, where the rolls of paper that feed the presses are stored, the light is softened. There are fewer lighting units, although the prismatic reflector principle is used. The ceiling is painted white to reflect the light, and from the units 20% of the illuminating power is directed against the ceiling, while 80% is directed down and sideways, with the result the storage room is flooded with light.

The floor of the pressroom is industrial wood paving blocks laid end-grain up over a concrete foundation containing 40 lbs. of steel filings per square foot. The room, as has been described previously, is air-conditioned. Surrounding the presses the floor is Ferulin iron surfaced with carborundum to prevent pressmen slipping while doing their work about the press.

On the mezzanine floor at the rear of the pressroom is the locker and washroom finished in ceramic tile. There is space for 24 individual steel lockers. Four showers and a Bradley fountain basin provide facilities for cleaning up after work.

The *Globe and Mail* is printed on Hoe high-speed super-production presses supplied with Niles & Nelson's Goodrich rubber rollers. There are 12 units and 3 folders with 6 mailing room deliveries. The press line is approx. 110 ft. in length by 26½ ft. high. Weighing approximately 468 tons, the press cost in excess of $400,000. Installation cost alone was $35,000.

The columns which support the floor immediately surrounding the presses have been set on lead pads to help in absorbing press vibrations. The pit in which the presses stand is lined with specially prepared cork, both below and at the sides of the presses to provide effective vibration isolation from the building itself.

Flying pasters change rolls while the presses are operating at a speed of 40,000 papers p.h.

Two steel ink tanks, each of 1120 Imperial gallons capacity, supply the ink to the presses. Expressed another way, 7000 pounds of ink is contained in the tanks. The room in which these tanks are located is in the basement. The walls and ceilings have been treated to exclude moisture and the ceiling is lined with a layer of cork. A constant temperature of 75 deg. is maintained. Ink is pumped to the presses with gravity return.

An important part of the press equipment consists of three General Electric 200 h. p. alternating current main motors each accompanied by a 10 h.p. high-torque threading motor with two-speed gearing and a specially designed press switchboard. The total length of the switchboard is 48 ft. Each of the 200 h. p. motors is capable of driving six press units. Number of control panels for the press control is 16, three of which drive the press itself and 13 are used for tensions and pasters.

A stout inclined tractor-type conveyor made by the Jampol Company, transfers rolls from the street level to the paper storage room. The rolls are raised to the press platform by travelling elevator, from which place they are taken to the press reels by track trucks.

The Mailing Room

The mailing room is 132 ft. long and 84 ft. wide, and houses six Jampol steel-top tables 35 ft. long and 4 ft. wide. Under each table is slung a modern-type conveyor which carries bundles or bags of paper to three dome-spiral chutes which drop vertically to the loading dock on the street level. In the far corner of the room is a smaller, steel-glass enclosed "Speed-o-mat" room. Located here are the Address-o-graph machines and other equipment for preparing the mailing lists. The entire floor is illuminated by lights of a high intensity. There are no individual drop lights. The area is ventilated by a self-contained air-conditioning plant. Floor is cement. The entire layout and equipment was designed for 100 per cent expansion.

Expands Line

Edgar A. Mills, jr., manager of the Eastern Newspaper Supply Company, Corona, N. Y., has announced that the business of the company has been expanded to include newspaper pressroom and composing room supplies. Heretofore, the principal supplies items handled by the company have been confined for use in the stereotype department. A new edition of the Eastern Newspaper Supply Company's catalog has been issued and is available to mechanical executives.

Edgar A. Mills, Jr.

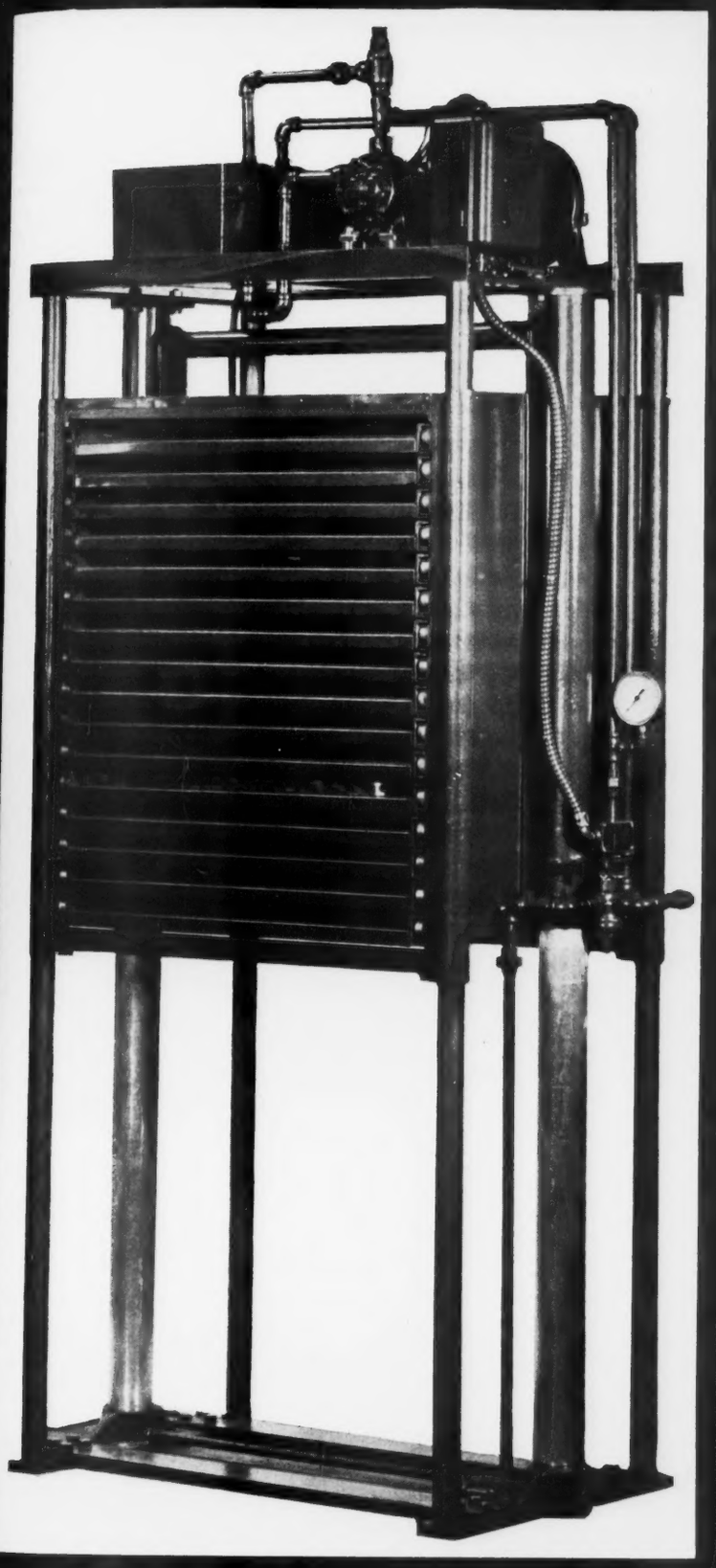
New Intertype Representative

Manager Chadwick of the Southern branch of Intertype Corporation announces the addition of Joe C. Harty to his sales staff as of May 1. He has been assigned to the States of Arkansas and Louisiana.

These Departmental Executives Are Proud of *Globe and Mail's* New Home

Reading from left to right: Roy Stubbs, Pressroom Superintendent; Archie Johnstone, Superintendent Composing Room; David Edward, Superintendent Engraving Department; Stanley Robertson, Foreman Composing Room; Dave Marshall, Stereotyping Superintendent; George McCleary, Mailing Supt.

FILE-A-FORM-A-MINUTE



Don't add more make-up trucks to your composing room equipment until you see what a small space 16 Daily Forms can be handled with the amazingly condensed

POWER-LIFT FORM FILE

Remember — the Power-Lift Form File was designed for taking care of Daily Forms. It is not intended as a dead-storage piece of equipment.

You-Can-File-a-Form-a-Minute, and find it just as quickly by the index tabs opposite each form.

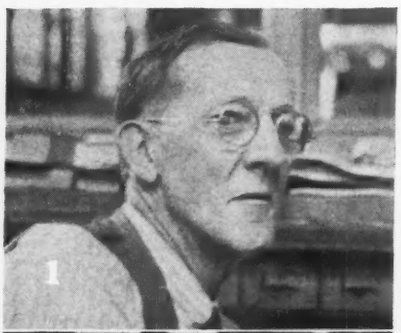
STA-HI • INC.

LOS ANGELES, CAL. • 1020 Crocker St.
CHICAGO, ILL. • 538 So. Clark Street
PORTLAND, ORE. • 417 Oregonian Bldg.

Filing System

For handling advertisements recently adopted now working smoothly in Cleveland *Plain Dealer* composing room—Much new equipment bought

By STAFF WRITER



Above at No. 1 is Cleveland Plain Dealer's *Composing Room Superintendent Mortimer Moeder; No. 2 is Night Foreman William A. Schnurr; No. 3 is Day Foreman Arthur Robb; No. 4 is a likeness of Chief Machinist Frank C. Cornell. All of these men have long service records with the* Plain Dealer.

THE work of rearranging the equipment layout in the Cleveland *Plain Dealer* composing room and the installing of much new equipment has been completed. Alterations and selection of equipment were carried out under the direction of the late Earle Martin with the assistance of Composing Room Superintendent Mort Moeder. Notable among the changes in equipment layout was the placing of the proof room in a separate enclosure on the composing room floor level; dividing the ad alley line-casting machines from the news machines so that each group would be positioned in the department with which it is associated; the installation of the makeup table system instead of individual page trucks, and the adoption of a galley filing system for advertisements (similar to the one used at the Louisville *Courier-Journal*) which makes possible the instant location of any advertisement. M. George Martin, Production Manager, described the system in a story about the *Courier-Journal*, April *Printing* EQUIPMENT *Engineer*.

Most composing room executives have ideas about how they would lay out equipment if the properly proportioned floor area were available. Because most rooms are far from being ideally proportioned they must use their ingenuity in laying out equipment to obtain efficient work flow. By inspecting the layout diagram of the *Plain Dealer* composing room, it will be seen that the general outline of the area available for this department is L-shaped. The L-shape and a number of obstructions made it necessary to study the layout problem carefully. One of the obstructions was a 15 ft. sq. stack rising from the pressroom several stories below and which is used for ventilating that department. Another obstruction is the passenger elevator, the location of which is shown in the diagram. Considering these limitations, the reader will agree that full advantage was taken of the area in placing the equipment.

The ad alley foreman's desk is indicated on the diagram at (15). All copy and cuts clear through the dispatch room. Copy is passed out at the table (16) and goes to the markup man (17). The markup man sends display either to Ludlows (20) or to the line-composing

View of ad alley machine section in Cleveland Plain Dealer *composing room. Four new Intertypes—2 four-deck Model F Mixers and 2 Model G Combination Mixers have been installed with a full complement of magazines. Besides the new machines, a Model H and 5 Model C Intertypes and 2 Linotypes make up the ad alley battery of 12 line-composing machines. Cooper Hewitt lamps are used throughout the department. One of the Monotype material makers may be seen at the end of the room.*

View of makeup section in Cleveland Plain Dealer *composing room, showing part of the Thompson 12-ft. makeup tables with overhead material racks and lighting canopies. All electric wiring is carried in overhead conduit.*

Imperial Service Centers

Imperial's well known high quality type metal and the dependable Plus Plan are available all over the United States. The map above shows the location of our many warehouses, so placed that they may serve you most efficiently during any emergency. • Over 48% of all daily newspapers in this country use Imperial type metal because they get lower yearly metal costs and accurate metal control. When you want service—contact the nearest Imperial Service Center.

IMPERIAL TYPE METAL COMPANY

PHILADELPHIA • NEW YORK • LOS ANGELES • CHICAGO

machines (18). Operators deliver slugs to ad dumps (24). Ad alley assemblers work at Thompson tables (26). Tables (26) are equipped with spacing material racks. A Rouse bandsaw, C. & G. and Miller saw-trimmers and mitering machine are located conveniently. Ads are delivered to the ad dumps (31), proofed on Vandercook proof presses (31 and 32), and are then shunted into the galley storage system racks (35).

Control System for Handling Ads

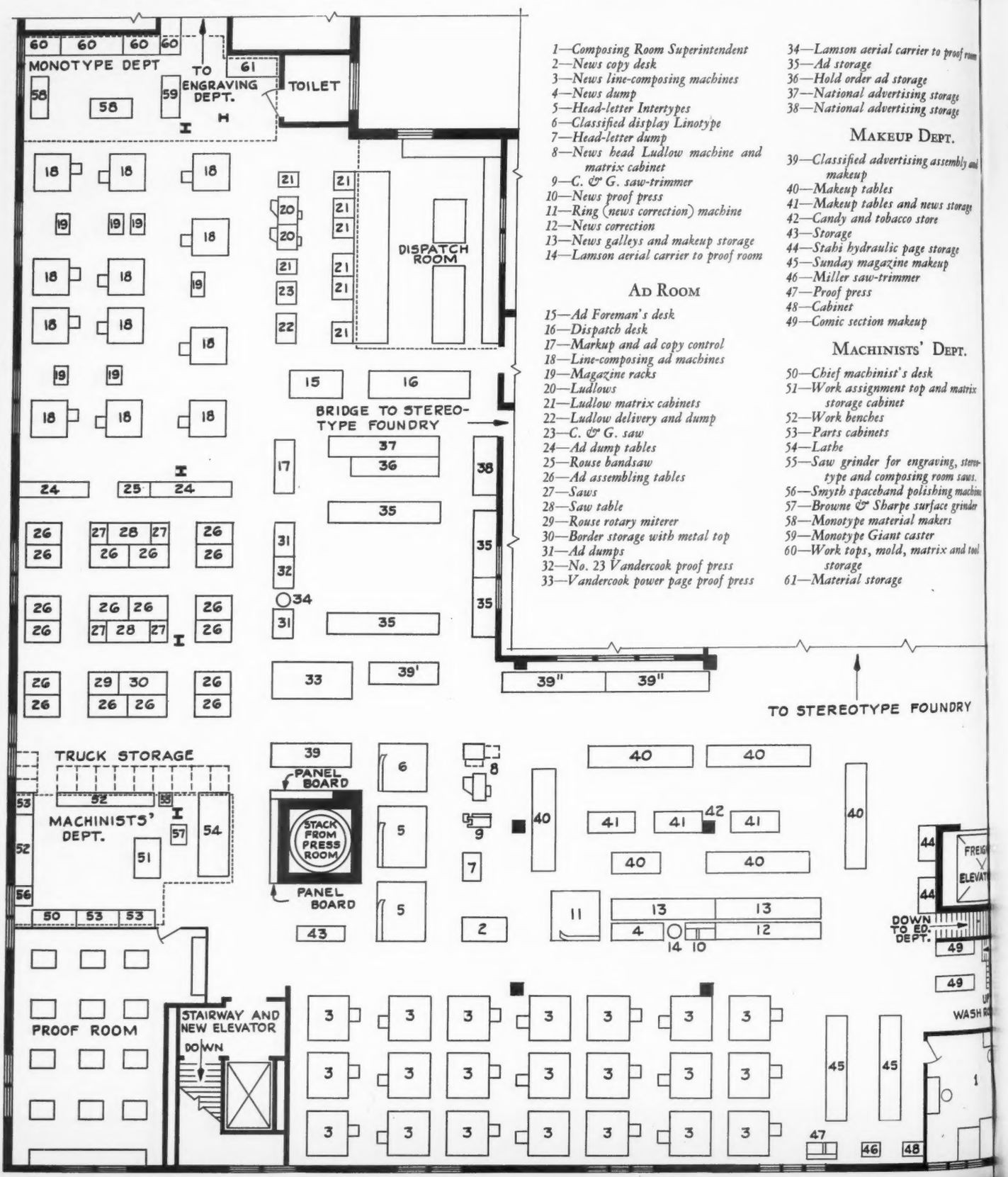
After three-months' trial, Superintendent Moeder and those immediately concerned, are pleased with the ad filing system because of the immediate accessibility of ads and the time-saving features of the system itself.

Two new Thompson storage racks (35) each 12 ft. long, with worktop and overhead illumination, are used to store galleys containing the advertisements. In this system, only one advertisement is placed on a galley irrespective of size.

Galleys are numbered from 1 to 1000. There are 400 one-column, 300 two-column and 100 each three, four and five-column galleys. Advertisements of greater size are placed on large slides or are set directly on form trucks. Each galley is numbered individually by riveting a Ludlow slug with 30 pt. number at the head of each galley. In this way, the galley number appears automatically on the proof of the galley containing the ad. Slides in the storage space below the work top of the tables are each numbered so that galleys are placed in the slides according to the numbers on the galleys.

When proofs are taken, as has been stated above, the galley number appears on each proof. This number is entered in a record book when the proofs are delivered to the dispatch room

PLAN OF NEWLY ARRANGED *CLEVELAND PLAIN DEALER* COMPOSING ROOM



1—Composing Room Superintendent
2—News copy desk
3—News line-composing machines
4—News dump
5—Head-letter Intertypes
6—Classified display Linotype
7—Head-letter dump
8—News head Ludlow machine and matrix cabinet
9—C. & G. saw-trimmer
10—News proof press
11—Ring (news correction) machine
12—News correction
13—News galleys and makeup storage
14—Lamson aerial carrier to proof room

Ad Room

15—Ad Foreman's desk
16—Dispatch desk
17—Markup and ad copy control
18—Line-composing ad machines
19—Magazine racks
20—Ludlows
21—Ludlow matrix cabinets
22—Ludlow delivery and dump
23—C. & G. saw
24—Ad dump tables
25—Rouse bandsaw
26—Ad assembling tables
27—Saws
28—Saw table
29—Rouse rotary miterer
30—Border storage with metal top
31—Ad dumps
32—No. 23 Vandercook proof press
33—Vandercook power page proof press
34—Lamson aerial carrier to proof room
35—Ad storage
36—Hold order ad storage
37—National advertising storage
38—National advertising storage

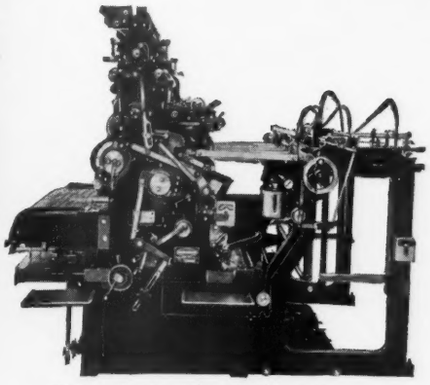
Makeup Dept.

39—Classified advertising assembly and makeup
40—Makeup tables
41—Makeup tables and news storage
42—Candy and tobacco store
43—Storage
44—Stahl hydraulic page storage
45—Sunday magazine makeup
46—Miller saw-trimmer
47—Proof press
48—Cabinet
49—Comic section makeup

Machinists' Dept.

50—Chief machinist's desk
51—Work assignment top and matrix storage cabinet
52—Work benches
53—Parts cabinets
54—Lathe
55—Saw grinder for engraving, stereotype and composing room saws.
56—Smyth spaceband polishing machine
57—Browne & Sharpe surface grinder
58—Monotype material makers
59—Monotype Giant caster
60—Work tops, mold, matrix and tool storage
61—Material storage

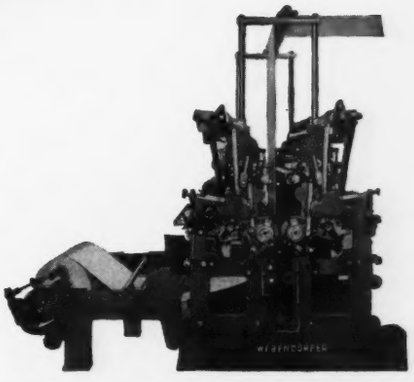
WEBENDORFER



Webendorfer Sheet Offset Press
12x18 17x22 22x29 26x40

Simplified Offset—

Get your copy today . . .
No cost — No obligation



Offset Web Perfecting Press Built Upon the Unit Plan in Any Size

"Gentlemen:

"We are advised by Mr. John B. Webendorfer of the Webendorfer-Wills Company that you are interested in obtaining data as to the operating costs of a newspaper offset press and are pleased to submit information concerning our own experience.

"Some months ago we installed a Webendorfer press capable of printing an eight page tabloid or four pages standard newspaper size. This we are informed is the first and only newspaper offset press ever manufactured in the United States.

"Results at the present time are very satisfactory, and it occurs to us that similar equipment is precisely what you need for the purposes set forth in your inquiry to Webendorfer.

"We find that a pressman and one helper are sufficient to operate our unit which works satisfactorily at a speed of 10,000 per hour. There is practically no make-ready --- we simply put the plates on and start to run. Half an hour's time at most is all that is required to get in full operation after the plates are ready to go on the press."

To Produce in This Magazine Above Line Cut Typewriter Copy

EASIER CONTROL • SIMPLER OPERATION • SPEEDIER PRODUCTION

American made by

WEBENDORFER-WILLS CO., Inc.

Builders of Printing Machinery for Over Thirty Years **MOUNT VERNON, NEW YORK, U. S. A.**

KEY SYSTEM, TYPE FACE AND SIZES

INTERTYPE ON UPPER LINE, LUDLOW ON LOWER

Al—Agate Light 5½												
Ab—Agate Bold 5½												
A—Antique	6	8	10	12	14							
Ai—Antique Ital.....	6	8	10	12	14							
Bb—Bodoni Bold....				12		18	24					
							24	30	36	48	60	72
Bbi—Bodoni Bold Ital.				12								
						18	24	30	36	48	60	72
Bc—Bodoni Condensed												
							24	30	36	48	60	72
Cb—Caslon Bold.....	6	8	10	12	14	18	24	30				
								30	36	48	60	72
Cbi—Caslon Bold Ital.	6	8	10	12	14	18	24					
								30	36	42	48	
Cl—Caslon Lite.....	6	8	10	12	14	18	24	30				
							24	30	36	48	60	72
Cli—Caslon Lite Italic	6	8	10	12	14	18	24					
						18	24	30	36	48	60	72
Cht—Cloister H'd-t'l'd					14	18	24					
Cg—Condensed Gothic		8	10	12	14	18	24	30	36			
							24	30	36	48	60	72
C—Coronet.....												
						18	24		36	48	60	72

Here is shown a section of the symbols used by the markup men in the Cleveland Plain Dealer *composing room ad alley. As will be seen, the names of advertising display type faces are expressed in symbols consisting of the first letter of the name of the type face. The point sizes of each type face are in the right-hand columns of the table. Intertype matrix faces with point sizes are carried in the upper line and Ludlow display type faces are carried in the lower line opposite the name of each type face. Since all advertising composition in the* Plain Dealer *ad alley is by line-composing machine, two point-size lines are sufficient to indicate by what machine the display lines can be cast.*

against the ads which are entered in the record book in alphabetical order.

Production Flow Smoothed

Because the ads are isolated on individual galleys, flow of proofs to the proofroom tends to be continuous rather than jerky. In this way, a "bottleneck" condition in the proofroom is prevented. Formerly, for instance, five single-column ads each 3 in. depth were placed on one galley. Sometimes completion of composition of one of the ads would be the cause for delay in sending the entire galley to the proof press. Consequently, reading of any of the five ads on that galley was held up until the proof had been delivered to the proofroom. In turn, when the proof did arrive, all five ads would have to be read without interruption, which prevented control over proofreading operations in the department.

Under the old system, as is explained above, delays were sometimes caused, because with five small ads on one galley, none of the ads could be released until the printer had finished making corrections in the ads on that galley.

The makeup department is furnished a dummy by the dispatch room at a certain hour each day with ads marked in proper position on each page. As fast as the ads are released by the dispatch room they are delivered to the makeup. Between the dispatch room and makeup, identification of each ad is by number and name on the makeup dummy. Ads are delivered to the makeup either singly, or in the case of small ads, are placed several on a galley. Here again, the placing of ads on individual galleys automatically provides for delivery of all ads to the makeup department as fast as released by the dispatch room.

The old method of placing several ads on one galley with consequent difficulty of locating a certain ad is eliminated. Locating an ad for corrections is simplicity itself because the ad rests on a galley with slug number at head of galley which is placed in a slide bearing a number corresponding to that of the galley. At all times, the ad alley is quickly informed as to the ad number when placing cuts coming through after the ad has been set, taking extra proofs or other information regarding an ad.

News and Makeup

News copy comes to the news copy desk (2) via pneumatic tube. Copy is run out to the machines (3). In this group there are 18 Intertypes and 3 Linotypes. Heads are set on two Model E Intertypes (5) and a Ludlow (8). Classified display is produced on a Linotype (6). News matter is dumped on the flat top (4). The proof press is shown at (10). Proofs are conveyed to and from the proof room by aerial carrier, station for which is shown at (14). Ring machine (a Model F Intertype) is shown at (11). News correction is indicated at (12). News galleys and storage for makeup at (13).

Since the room has been rearranged, Thompson makeup tables (40) and (41) are used. Seventeen lift trucks are used to transfer forms—see illustration with description. Two Stahi hydraulic page storage lifts are shown at (44).

Some time ago, the making up and handling of page forms in the Cleveland *Plain Dealer* composing room was changed from trucks to makeup tables. This necessitates sliding the forms from the tables to transfer trucks for delivery to the stereotype department. After molding, the form is conveyed from the molding machine either to a form file storage system or is returned to the makeup table for makeover or breaking up.

The trucks used for transferring pages, therefore, must be operable with a device which will permit shifting page forms to and from the truck. While being shifted from table to truck or from the molding machine apron, the truck top must be slightly lower than the surface from which the form is to be transferred. It was decided that a truck with adjustable table top having ½ in. throw would meet requirements.

A number of the fixed-height trucks already in use at the *Plain Dealer* were converted to adjustable trucks by John Olsen, plant machinist. As will be seen in the accompanying illustration, the truck is lever-operated from either of two sides, the lifting mechanism being tied with two connecting rods 3. When either of the levers *1* is manipulated, the top is raised or lowered by a cranking action of the four disks 2 pinned to the shafts, to which are connected four supporting rods *4*, (one to each corner of the truck top).

In converting the truck tops, Mr. Olsen removed the pipe couplings from the Tee supports *8*. A flanged pin *5* was turned up from cold-rolled steel and provided with threads to screw into the hole from which the coupling had been removed, the flange serving as a means for tightening the pin. A flanged bushing *7*, also made from steel, was screwed into the top of the Tee fitting *8*. A steel collar *6*, was placed on the sliding pin. After the lowest level position of the table top had been determined, the steel collars were pinned to the sliding pins to permanently fix the lowest level position of the top.

When in upper position, the level condition of the truck top is regulated by the turnbuckle arrangement *4*, in each of the four rods running from the disks 2 to the corners of the tops.

Proofroom

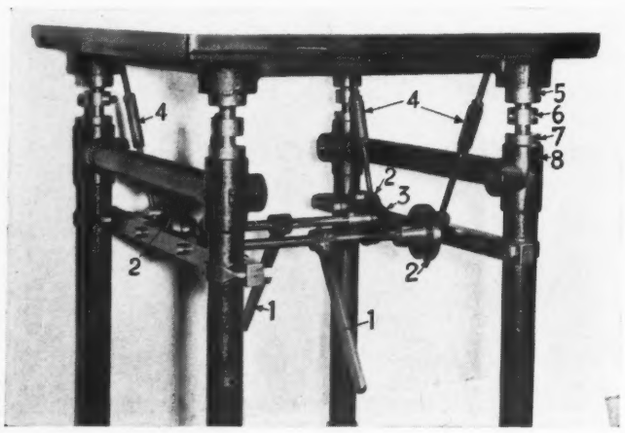
The proofroom has been isolated from the composing room by steel and glass partition. The ceiling is sound-proofed. All proofs, from ad alley and news section, are delivered by aerial carrier, indicated by (34) in ad alley section of diagram, and by (14) in news section. Five 10 ft. and one 5 ft. Curtiss lighting fixtures provide glareless flood of light for the proofroom.

Monotype Department

In the Monotype department two Material Makers and a Giant Caster are used to cast spacing material, dashes and borders.

Machinists' Department

A maintenance routine schedule is kept by Chief Machinist Frank Cornell. All machinery in the composing room receives attention at the proper intervals. Saws are inspected, tested and changed on schedule. A Wardwell saw-grinding machine is used to sharpen saws for the engraving, stereotype and composing rooms.



View of quick-throw adjustable top form transfer truck in use in Cleveland Plain Dealer *composing room.*

PAR Moves

Announcement has been made that Production Standards Corporation has been moved to new offices from the old address at 430 South Green St., Chicago, to 737 North Michigan Avenue, Chicago. Kenneth G. McKiernan is president and Olin E. Freedman is vice president and general manager.

Highlight OF THE ★A★N★P★A★ MECHANICAL CONFERENCE

The spotlight of interest at the ANPA Mechanical Conference will focus on a sensational new product being introduced by the world's largest manufacturers of advertising plates . . . the ***Rapid Five-Star Newspaper Mat!***

Tested and proved under everyday working conditions, the ***Rapid Five-Star Newspaper Mat*** is destined to make newspaper history! A cleaner, more attractive, more readable newspaper, attuned to the growing trend toward pictorial journalism and color work, is now possible at remarkably low cost.

See the new ***Rapid Five-Star Newspaper Mat*** at the Rapid Booth in the convention hall at the Royal York Hotel during the ANPA Mechanical Conference. Discover how this new mat solves many of your vexing newspaper production problems!

Plastic Mats are Manufactured and Sold by Rapid Exclusively

The Rapid ELECTROTYPE CO.

CINCINNATI

NEW YORK · CHICAGO · DETROIT · ATLANTA · SAN FRANCISCO

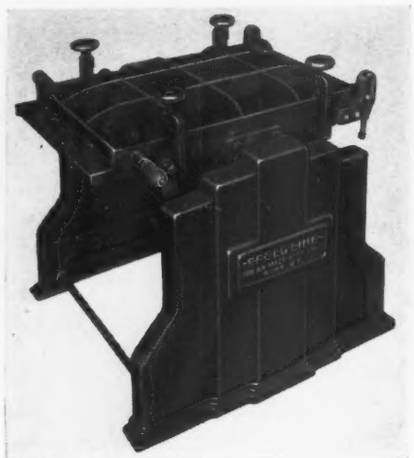
Atlantic Electrotype & Stereotype Co. . . 228 E. 45th St., New York
Hoffschneider Bros. . . . . 500 Howard Street, San Francisco
Northern Electrotype Co. . . . . 41 Burroughs Avenue, Detroit
Philadelphia Mat & Plate Co. . . . . 243 N. Juniper St., Philadelphia

WORLD'S LARGEST MAKERS OF ADVERTISING PLATES

New Equipment-Supplies

New Stereo Casting Box

Nolan Machinery Corporation announces a new newspaper page size flat casting box with frames of modernistic design. The nickel chrome alloy platens (an alloy especially developed to prevent warpage) are of heavy construction. Extra length is provided to give ample tail in full-page casting. Further information may be obtained from Nolan Machinery Corporation direct or through *Printing* EQUIPMENT *Engineer*.



P-Double-E File No. 2G6.2.

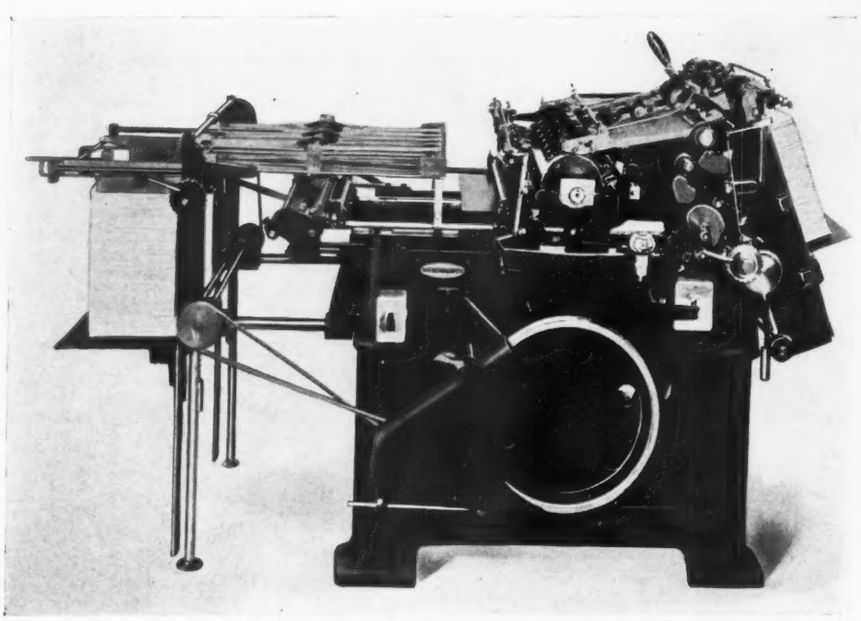
12 x 18 Little Giant Cylinder Press

Webendorfer-Wills Co., Inc., announce the 12 by 18 Little Giant Cylinder Press. Maximum sheet size 12 in. by 18 in. Maximum printing size, 11⅝ in. by 18½ in. Inside chase measurements are 12¼ in. by 17½ in. Press is equipped with automatic suction feeder and Leiman pump. Separate ⅛ h.p. motor is provided for operating the feeder pump. The feeder may be tested independently of press operation.

Extension delivery is arranged to swing out of the way for access to the form. Manufacturer states press is equipped with ample ink distribution for covering complete line of solids to line work, and a cork blanket is employed to eliminate a considerable amount of makeready.

Wherever possible, anti-friction bearings are used. Gravity feed oil system for press bearings. Press operates from a ¾ h.p. motor.

P-Double-E File No. 5LL9.



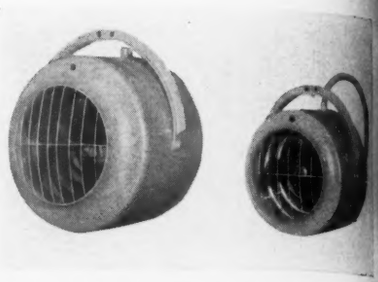
View of Webendorfer 12 x 18 Little Giant Cylinder Press with automatic suction feeder and extension delivery. Separate motors for driving the press and feeder pump are provided.

Larger Forced Convection Heater

A larger forced convection heater, with higher heating capacity, has been announced by the General Electric Company, to add a heavy-duty, exclusively wall or ceiling-mounted unit to the G-E line of industrial heaters. Including the new type, three physical sizes of heaters are now available: The small, portable size in ratings of 2, 3 and 4 kw; the intermediate size, suspension style, in ratings of 5 and 7½ kw, and the new suspension style in ratings of 10, 12½ and 15 kw. All heaters are available for 230 volts, 60 cycles—the small and intermediate sizes being single-phase and the large size, three-phase.

The projection of the smallest unit is 200 cu. ft. of air per min., at a velocity of about 700 ft. per min. Capacity ranges upward through the different types until, in the case of the newly announced suspension type, volume is 1590 cu. ft. per min., with velocity of about 1780 ft. per min. Outlet temperatures remain nearly the same in all types and sizes.

G-E Calrod heating units are brazed to strong radiating fins in order to assure maximum heat-transfer efficiency. Motor is totally enclosed, has sleeve bearings, and an ingenious baffle plate protects it from direct radiation. Thermostatic cutouts protect it from overheating by accident. If, for instance, some obstruction should be placed before the inlet or outlet, the automatic cutout would shut off the power.



View of G-E forced convection type unit air heaters. Three frame sizes are shown with ratings from 2 to 17½ k.w.

P-Double-E File No. 8A.

Announces New Proof Press

Vandercook & Sons announce the new No. 24 Vandercook Proof Press. It takes a form up to 23 in. by 24½ in. or a full size newspaper page in stereotype chase. Manufacturer states the proof press is built with extra heavy, rigid bed construction; it is equipped with full automatic grippers, feed board, and automatic cylinder trips; has side register guide and hairline register is guaranteed.

Other features of the press are as follows: Full precision ball bearing construction makes rigid impression setting possible and insures easy operation; cylinder is set down on bearers with a pressure of 200 lbs. per lineal inch; automatic cylinder trip; automatic sheet brush prevents sheet wrinkle and slur and facilitates proofing to exact register.

Net weight is 1075 lbs. Heavy steel cabinet with adjustable feet for leveling; bottom storage shelves have hinged doors; cylinder gears are completely guarded to afford protection to the operator; packing is easily changed—reel rod and clamp bar are convenient for securing tympan.

P-Double-E File No. 1V1.

TINGUE PRESS BLANKETS

TRADE MARK

EXTRA!

PRICES REDUCED

on blankets built to accommodate the narrower widths of news print.

FELT
PRINTING BLANKET
Coating by Du Pont

Cushion Cork
Registered U.S. Patent Office
PRINTING BLANKET

TINGUCORK
Registered U.S. Patent Office
PRINTING BLANKET

FOUNDATION
PRINTING BLANKET
Patent applied for
Laminated by Du Pont with NEOPRENE

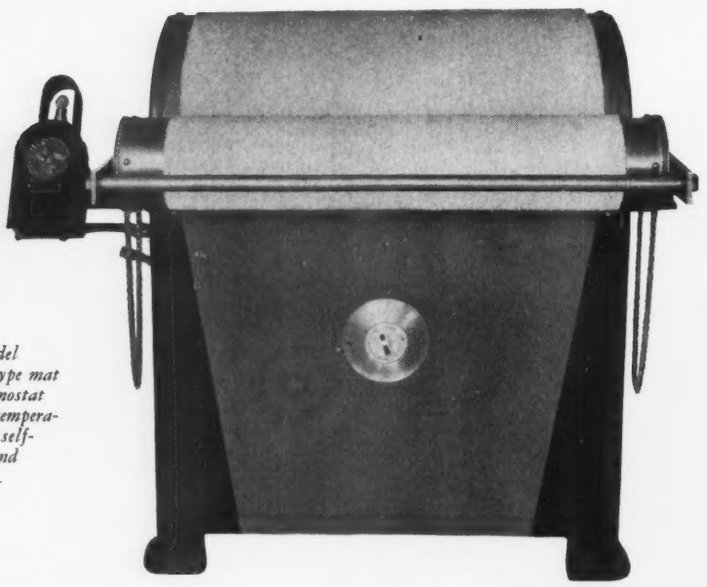
DRAWSHEETS
FOR PRINTING PRESSES
FIVE QUALITIES AND GAUGES

TINGUE, BROWN & CO.

118-120 East 25th St.
NEW YORK, N. Y.

1227 Wabash Ave.
CHICAGO, ILL.

723 East Washington Blvd.
LOS ANGELES, CAL.



View of New Model "MMM" stereotype mat scorcher with thermostat control, selective temperatures, direct heat, self-conforming cover and adjustable tension.

New Model "MMM" Form-O-Scorch Machine

Carrying the theme of modernistic design into all models of the Form-O-Scorch machine American Publishers Supply now announces an improved Model "MMM" Scorcher with several new features. The new model has been provided with Direct Heat, Selective Temperatures and Thermostat Control.

A One-Point Control Switch mounted at the front of the machine acts as a line switch to turn the electric current on and off. It also permits the operator to adjust and set the heat at any desired temperature up to 450 deg. F. for any desired heat in shrinkage control. This dial also manipulates the thermostat so that the machine always remains at the temperature at which the dial is set. A pilot light behind the translucent dial of the control switch functions with the thermostat, showing when the machine is on heat and when the thermostat turns it off.

The heating units are shaped to form the drying turtle and eliminate any air spaces or heating chambers. The mat is dried by direct contact without danger of uneven distribution due to air pockets. Heat is distributed evenly from corners to center to dry and form the mat. A Scorchrite Timer is standard equipment with this machine. It provides the exact scorching interval for each mat so there is no variation in the finished result.

Acraplate Vulcanizer

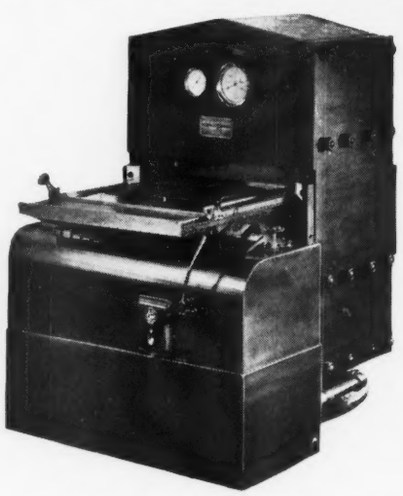
The Acraplate Vulcanizer has been designed solely for the production of synthetic resinous mats and finished rubber printing plates.

The equipment is available in three standard sizes, namely, 24 in. by 20 in., 30 in. by 24 in., and 36 in. by 28 in., in addition to a Junior Model 14 in. by 14 in. All sizes offer optional equipment either hand pump or completely self-contained motor-driven hydraulic (oil) unit.

The motor-driven unit offers completely flexible control in the speed of closure and pressure applications, at the same time incorporating positive maintenance of pressures for the curing period. The presses are supplied with drilled steel steam platens for the continuous passage of steam, these being recommended by the manufacturer in place of electrically heated units, which are, however, offered as optional equipment. It is pointed out by manufacturer that steam platens offer accurate maintenance of uniform curing temperatures over the full platen area, these being held within 4 deg.

The press is of rugged side plate construction with large diameter ram, in all cases that diameter being the same as the smaller platen dimension.

The units are complete with sliding work table, hydraulic gauge, interval timer, temperature gauges, pressure control, hydraulic



View of Acraplate Vulcanizer

reservoir, etc. All are capable of producing finished rubber plates with a maximum variation in thickness of 0.003 in. and under actual production are producing in many plants finished plates up to the full platen size, varying in thickness as little as 0.0015 in.

Improved Wood Dry Mat

The Wood Flong Corporation announces an important improvement has been made in its Metropolitan, Standard, Special and Syndicate mats, whereby the corporation is now enabled to produce mats with an exceptionally smooth surface, for producing solid blacks. In removing the coarseness from the face of the mat, manufacturer states the soft plastic quality of the product is enhanced and is conducive to faithful halftone and middletone reproductions.

The Wood Flong Corporation suggests that those attending the A.N.P.A. Mechanical Conference may see the improved Wood Dry Mats in operation by visiting the plants of the Toronto *Globe* and *Mail*, the Toronto *Star* and the Toronto *Telegram*.

Proof Press Will Handle Newspaper Form

A new and larger model has been added to the Series C line of Challenge Proof Presses, has been announced by The Challenge Machinery Co. The latest unit, designated as the 2025-C, has a bed size of 20½ in. by 26 in. and will take forms up to 19½ in. by 24 in. It will handle an 8-column, 12-pica, newspaper form, providing facilities for pulling clean, sharp proofs of full-page ads.

This new proof press is equipped with a special Challenge Ink Distributor which permits quick, easy inking of hand rollers. The brayer is simply placed on the revolving metal distributing cylinders which are powered by an electric motor, controlled by a convenient snap switch. The hand roller can be hung

Challenge Page Proof Press

up out of the way when not in use to prevent flattening out and prolong its life.

The Challenge 2025-C operates on the same principle as a cylinder press with a reciprocating bed rolling on anti-friction bearings. The cylinder is easily accessible for changing the hard packing. A removable galley plate permits proofs to be taken either from a galley or type form.

An all-steel stand provides shelves for proof paper, ink, and other supplies. Both the stand and ink distributor are optional equipment.

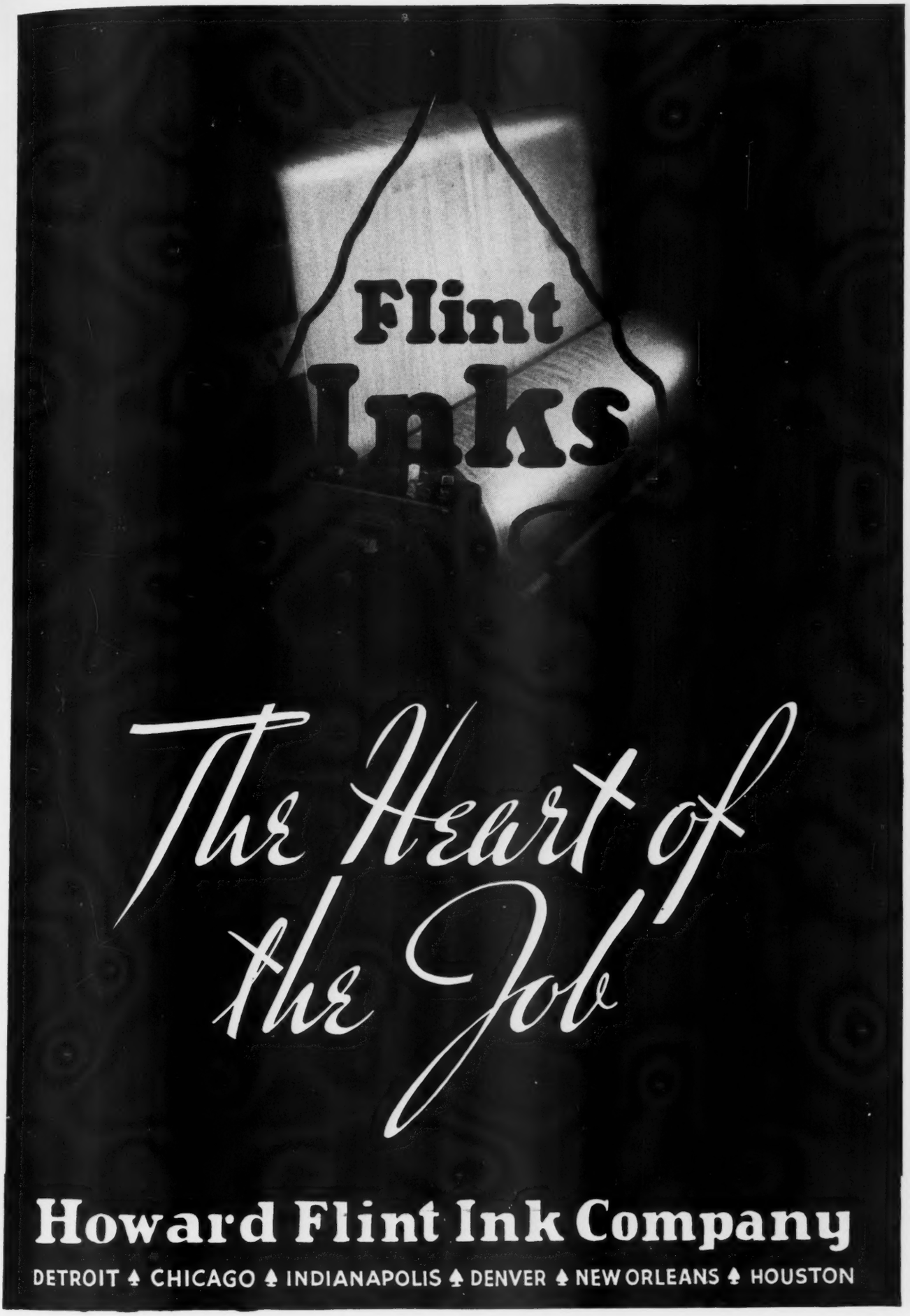
Further information is available on request to the manufacturer direct or through *Printing* Equipment *Engineer*.

Electric Metal Etcher

An Electric Etcher for permanently marking on metal surfaces has been announced by the Ideal Commutator Dresser Company.

Used in the same manner as an ordinary lead pencil, the Etcher writes, prints or marks on line-casting machine molds, tools, gauges, dies and hard metal parts. The permanent lettering stands out clearly and positively. Two points are provided with the unit, one copper that may be sharpened for fine mark-

Ideal's Electric Metal Etcher


Flint
Inks
The Heart of the Job
Howard Flint Ink Company
DETROIT ♠ CHICAGO ♠ INDIANAPOLIS ♠ DENVER ♠ NEW ORLEANS ♠ HOUSTON

ing, the other a special alloy for ordinary marking. The depth of the mark is controlled by the speed at which the point is moved over the metal, and also by changing the Hi-Lo switch on the transformer.

The complete unit consists of a fibre handle with two points, a 4 in. by 7 in. work plate and five feet of No. 6 flexible wire with a carbon rod resistor and connector halves for attaching to a No. 5A7 Deluxe transformer.

Non-Repeat Device On Cutter

Featuring a new non-repeat device, the improved Diamond Power Paper Cutter has been introduced by The Challenge Machinery Co. Incorporated in the latest Diamond Cutter is the new Challenge Safety Device, a built-in arrangement that prevents the knife from repeating. The knife definitely stops at its highest point, it is stated, and cannot repeat its stroke.

This device is located on the worm wheel mechanism near the right side of the machine. If, at any time, the clutch should fail to disengage or if any part gets out of order, the Challenge Style E Non-Repeat Device will automatically trip and disengage the drive wheel. While the main drive shaft will continue to revolve, the knife bar will remain stationary at the top point of travel.

This Challenge Cutter is equipped with a new knife non-repeat device.

The starting lever of the Diamond Power Cutter is located on the left side of the machine. This lever requires two motions, one forward and then one to the right to engage the clutch. After each complete cycle of the knife, the starting lever is returned to its non-starting position. If, during the cycle, the brake does not function or the clutch does not throw out, the Non-Repeat Device disengages the drive wheel, permitting the main shaft to turn but keeping the knife bar in a fixed position, until the cause of tripping has been corrected and the mechanism re-set.

The new Non-Repeat Safety Device is available as an extra and cannot be installed on old machines. Other types of non-repeat devices can be furnished for older models of the Diamond Power Cutter. Full information is available on request to the manufacturer.

P-Double-E File No. 4F.

Model F. Carbon Dioxide Daylight Lamp

Barkon-Frink Tube Lighting Corporation's new Model F Carbon Dioxide Color Matching Lamp is finding application in the printing plant for color matching inks and for proofing engravings. The new lamp, however, is too small for color matching or color testing of most printed sheets. For the latter application Barkon-Frink supply a larger model.

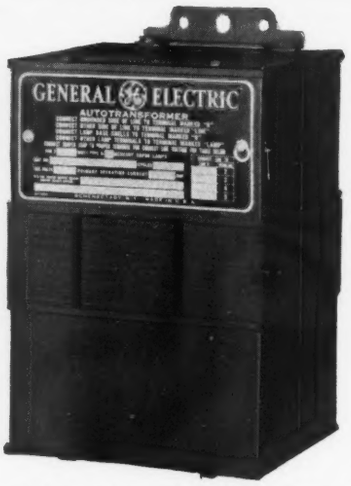
The new Model F Lamps provide what is described to be an unchanging source of artificial daylight. They are said to differ from electrical illuminating devices of both incandescent and gaseous discharge type in that the quality or chromaticity of the carbon dioxide radiation remains unchanged during the life of the tube. It is also claimed that the quality of light remains unchanged with ordinary changes in voltages. The carbon dioxide tube has a life of 5000 burning hours.

Model F Lamps are 22 in. long, 12 in. wide and 18 in. high. The Pyrex tubing forming the grid is mounted on a white porcelain enameled reflector and the entire unit is mounted in a steel case. The three model numbers supply 40, 80 and 125 ft. candles respectively.

P-Double-E File No. IGG.

Transformer Operates Two Mercury Lamps

A new "TuLamp" transformer, designed to operate two 400 w. Type H mercury lamps at peak efficiency and at 90-95% power factor, has just been introduced by the General Electric Vapor Lamp Company. The new "TuLamp" unit supplements the standard line of General Electric Transformers for mercury lamps. Use of the double-duty unit, company states, permits a reduction of some 20% in transformer costs, and results in additional installation saving. Transformer losses are reduced 30% in comparison to two single-lamp units.



New unit is 1½ in. wider and somewhat heavier than the single-lamp transformer, but is practically same in general design. Starting currents using these transformers are below the normal operating current, so that no provision need be made in the wiring to take care of excess starting values. For example, starting current of the "TuLamp" transformer, operating two 400 w. Type H lamps from a 115 v. line, is 4.5 amp., gradually increasing up to the normal two-lamp line current of 7.5 amp. Under these starting conditions, the wiring in branch circuits can be used at full capacity.

Using the new unit, one lamp starts and reaches its full efficiency before the other lamp. With as much as a 40 v. drop in the circuit, one lamp will continue to burn. Should one lamp burn out, the other lamp will operate normally without injury to the transformer.

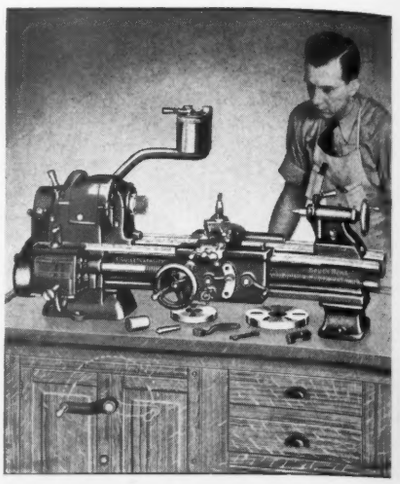
P-Double-E File No. 1GG.

South Bend 1 in. Collet Lathe

A new 9-inch swing lathe with a 1⅜ in. hole through the spindle and 1 in. collet capacity is announced by the South Bend Lathe Works, South Bend, Indiana.

This new 9-inch Lathe is a back-geared, screw-cutting lathe, with all engine lathe features. Draw-in collet chuck attachment may be had in the handwheel type and the quick acting lever type; telescopic taper attachment permits doing the most precise taper work; electric grinder, chip pan, collet tray, carriage stop, and milling and keyway cutting attachments are also available.

A two-speed motor drive provides twelve spindle speeds ranging from 50 to 1400 r.p.m. The Quick Change Gear Model cuts screw threads from 2 to 112 per inch and the Standard Change Gear model cuts threads 4 to 112 per inch. Power longitudinal feeds are 0.003 in. to 0.020 in. and 0.002 in. to 0.015 in. respectively. Four bed lengths are available: 3 ft., 3½ ft., 4 ft., and 4½ ft.



View of South Bend Lathe Company's 1 in. Collet Lathe. This lathe has 9 in. swing.

P-Double-E File No. 1CC

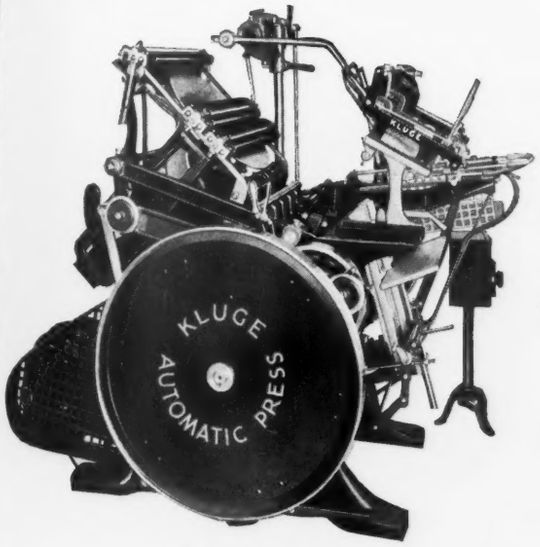
Boosts Output By 25 Per Cent

Production was increased 25%, it is reported, when a General Electric cartridge heating unit was installed in the letter molds of a Dek-O-Letter book-lettering machine used in the plant of the Schiller Book Bindery, San Diego, Calif. Lloyd Becker, manager of the company, states the new heating device results in a uniform, high quality job at reduced costs.

The Dek-O-Letter unit, manufactured by the Oversewing Machine Company, has been in constant use since it was first equipped with "spot" heat in 1932. Cylindrical in shape, the installed cartridge is approximately the size of the finger, yet is capable of producing a sheath temperature of 750 deg. F. Variations of this "spot-of-heat" cartridge unit range up to 1200 deg. F. maximum sheath temperature.

View of Oversewing Machine Company's Dek-O-Letter Unit in plant of Schiller Book Bindery.

The Easiest Press to Keep Profitably Busy is the Kluge Automatic



—because it will take any job that will fit the press. . . . No matter what jobs you may have on hand, the Kluge is equipped to handle them profitably and efficiently, from solids and halftones to die-cutting and embossing. Eighty percent of the work in the average commercial shop can be handled by the average automatic platen and the Kluge will do ten percent better than that. . . . It was built for that purpose.

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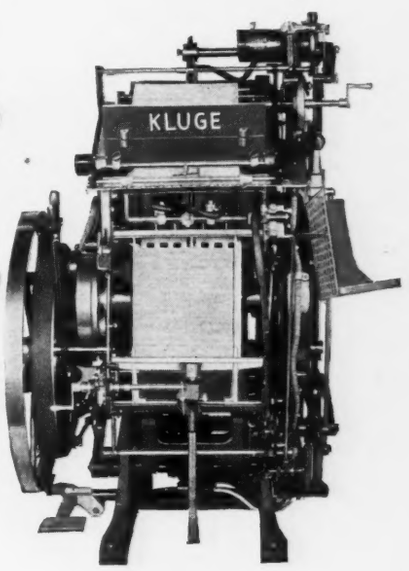

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Set-off

On the second impression cylinder in rotary letterpress printing—Analytical discussion of causes of troublesome problem

PATRA JOURNAL*

A COMMON difficulty in rotary newspaper and magazine printing is the appearance on one side of the paper of the print from the reverse side. The defect, which occurs on the inner forme[1] only, is particularly objectionable and noticeable when it arises on a half-tone illustration. Fig. 1 is a photograph of an illustration from a daily newspaper which, it will be seen, is marred by the presence of unsightly lines, which are reproductions of type-matter printed on the reverse side of the sheet, of which Fig. 2 is a photograph. This defect is often accompanied by a "doubling" of the type-matter where backed up by a solid or a half-tone subject. There appeared to be some divergence of opinion in the industry as to the cause of this defect, various views being held, amongst which were:—

1. The penetration of the ink through the paper—*i.e.*, strike-through.
2. The decreased opacity of the paper due to the penetration of the oil medium of the ink, thus allowing the ink film on the reverse side to become more visible—*i.e.*, a combination of strike-through and show-through.
3. Set-off.

[1]*Inner and outer forme are terms used in the industry. The inner forme is that which prints the first side of the web, the outer forme is that which prints the second side.*

Reprinted by permission. Originally appeared in Patra Journal, *official publication of Printing and Allied Trades Research Association, London, England. G. L. Riddell, Director of Research.*

The following investigation made in *Patra's* laboratories, showed that the defect is due to set-off occurring when the outer forme was printed.

Examination of the Print by Ultraviolet Light

When some materials are exposed to ultraviolet light they glow with a characteristic light—a phenomenon which is termed fluorescence. Mineral oil, which is the vehicle of news inks, is strongly fluorescent and consequently its presence can easily be detected by the use of ultraviolet light. Fig. 3 is a photograph of the same print as is shown in Fig. 1, but in this case it was illuminated by ultraviolet light from a mercury vapour lamp. Between the lamp and the print was a filter which cut off all visible light but transmitted

The D'ALROY DIARY
Husbands-Dinners-Bachelors-
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What would you do with a husband who takes off his shoes and puts his feet upon the mantelpiece?
D buy him a pair of slippers.
★ ★ ★
OT MEN - SHY BUT MENU-SHY
I'm not shy of men, but when I'm ked out to lunch or dine I get overhelmingly shy and embarrassed when m asked to study the menu. I never what to do or say. What should
BE happy in the exchange you are making with your friends: and if you feel you cannot return their hospitality in your own home, do so by your charming "ways" and don't worry about your "means."

Fig. 2.—Reverse side of sheet to Fig. 1.

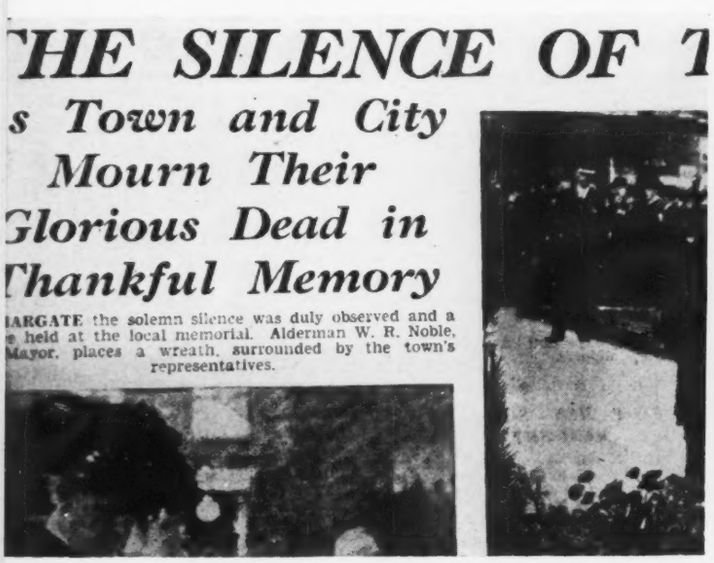
HE SILENCE OF T
s Town and City
Mourn Their
Glorious Dead in
Thankful Memory
ARGATE the solemn silence was duly observed and a held at the local memorial. Alderman W. R. Noble, Mayor, places a wreath, surrounded by the town's representatives.

Fig. 1.—A newspaper illustration showing print from reverse side on half-tones.

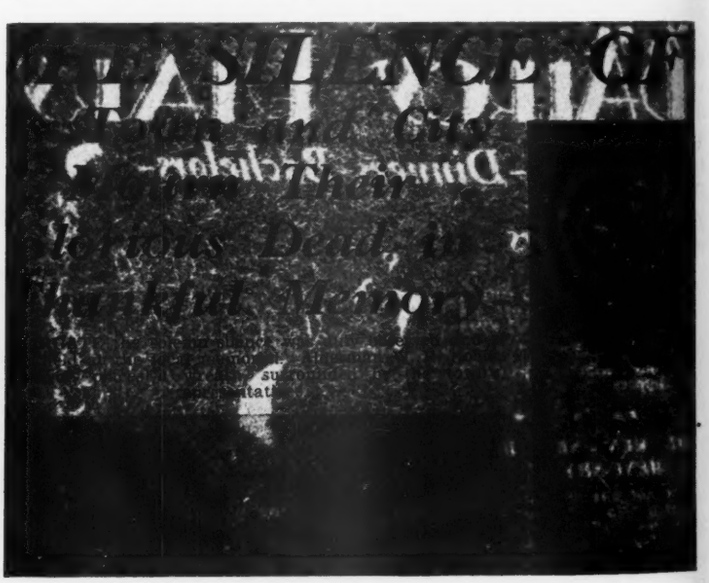

Fig. 3.—Fig. 1 photographed by ultraviolet light. The white reversed lettering is caused by the fluorescence of the mineral oil of the ink penetrating the paper.

DOUBLE-PAGE PLATE MATCHING MACHINE

Multiple tool cutter head turns off normal bevel on plate, squares end, machines proper radius under overhang, and finishes accurate bevel to fit press clips, assuring accurate matching of Double-Page Plates • No special double-page ring gauge required in casting units, no time lost changing ring gauges. Only adjustment required is to change saw to Double-Page width, and Double-Page Plate Matching Machines does the rest. Saves casting time, saves registering time on press. Safe for high speed.

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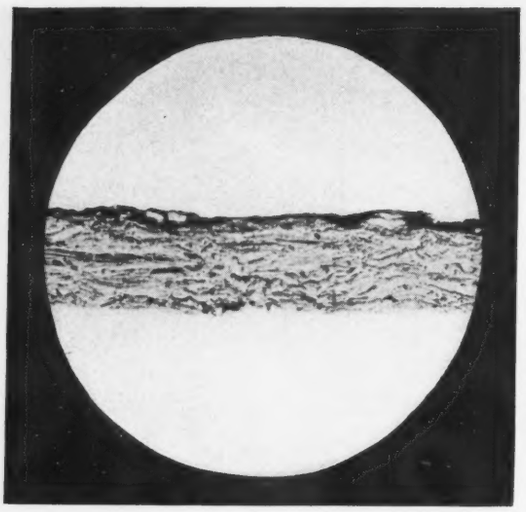
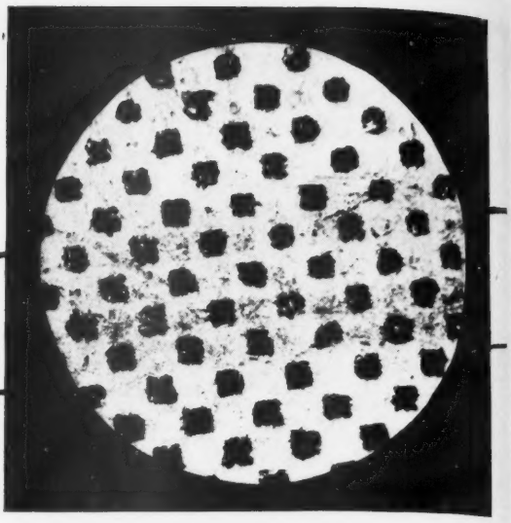


LEFT:
Fig. 4.—Cross-section of printed paper (X138).



RIGHT:
Fig. 5.—Photomicrograph (X15) of half-tone illustration which showed print from reverse side. The area between the parallel lines was backed by solid rule.

Unbacked.

LEFT:
Fig. 6.—Photomicrograph (X92) of half-tone illustration. Note white spaces filled in with ink where backed by rule.

Backed by rule.

RIGHT:
Fig. 7.—Photomicrograph (X15) of type-matter showing doubling where backed-up.

LEFT:
Fig. 8.—Photomicrograph (X15) of type-matter from adjacent area of same sheet as Fig. 7, but not backed-up. No doubling of letters.

the ultraviolet light, and between the specimen and the camera was another filter which absorbed ultraviolet light but transmitted visible light. The photograph was therefore taken only by the visible fluorescent light emitted by the specimen.

The light patches on Fig. 3 are due to the penetration of mineral oil from the reverse side of the paper, as they correspond exactly to the print as shown in Fig. 2. It can be seen that the oil from the ink has penetrated as much in the white areas of Fig. 1 as in the printed areas, and therefore since the defect does not occur in the whites it cannot be due to the penetration of the ink. This is supported by the examination of a cross section of the printed paper (Fig. 4) which indicates clearly that the ink pigment has not penetrated the paper to any appreciable extent.

From these observations it can be concluded that the defect is not due to strike-through.

The suggestion that the defect is due to the paper being rendered transparent by the penetration of the oil from the ink can be dismissed as the result of the examination of the print in ultraviolet light. There is as much penetration in the white areas of the print as where the half-tone occurs, and yet the defect is only apparent on the half-tone.

Strike-through or show-through may, however, contribute to the defect in some degree. With some inks on some papers the print is faintly visible from the reverse side of the sheet. If a piece of neutral grey glass is placed on top of such a print this "print-through" becomes more apparent. A print of a half-tone may, under certain conditions, act as the neutral grey glass filter and aggravate the effect of the "print-through."

MICROSCOPICAL EXAMINATION OF THE PRINT

Fig. 5 is a photomicrograph of part of a half-tone illustration, and it can be seen that certain of the half-tone dots are accompanied by a similar but fainter dot in slight mis-register. The illustration in this case was backed by a rule, the boundaries of which are shown in the photomicrograph. They correspond exactly to the areas in which the half-tone dots have been reproduced.

Fig. 6 shows a portion of a half-tone illustration at a higher magnification. The boundary of the defective area has been photographed, illustrating the filling up of the whites where there is print on the back of the sheet.

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The doubling of type-matter is shown in Fig. 7, the characters being reproduced almost completely but in a fainter form. This only occurs where there is print on the back of the sheet. Fig. 8 is a photomicrograph from an adjacent area of the same sheet where there was no print on the reverse side. Here it will be seen that there is no doubling. The "doubled" letters may be displaced either above or below, or to the right or left of the print.

A consideration of the method of printing supplies an explanation to the cause of the defect.

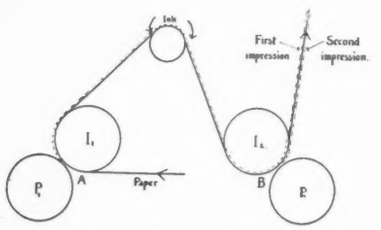


Fig. 9.—Diagram of unit of rotary press.

Fig. 9 is a diagram of a unit of a rotary letterpress machine. P_1 and P_2 are the first and second plate cylinders, and I_1 and I_2 the first and second impression cylinders. The course of the paper through the machine is indicated by arrows. The first side of the paper is printed at *A* and the second at *B*.

Suppose in the inner forme, which is printed at *A*, there is a half-tone illustration backed up by type-matter in the outer forme, which is printed at *B*. The first side of the sheet is printed and the web passes over a turner bar so that the half-tone illustration, which is still wet, comes into contact with the second impression cylinder, I_2. It is pressed into close contact with this by the raised portions —*i.e.*, the type of the stereo plate of the outer forme and a set-off of the dots of the half-tone illustration occurs on the blanket of the second impression cylinder, reproducing the type-matter.

At the next revolution the same process takes place and part of the ink from the set-off is transferred from the blanket to the paper. If accurate register is being maintained this impression will fall exactly on top of the print and will not be seen, but if for any reason the paper has, in effect, expanded or contracted or moved sideways, the impression from the set-off will be out of register and will show. It is a difficult matter to maintain extremely close register on web-fed presses running at high speeds, and hence the defect is one which frequently occurs.

The doubling of the type-matter arises in a similar manner. Where type on the inner forme is backed up by a heavy solid in the outer forme, the type sets off on to the blanket of the second impression cylinder and at the next impression is transferred to the paper slightly out of register.

There appears at the moment to be no certain method of overcoming this defect. It is probably asking too much to expect dot-for-dot register on machines which are running at very high speeds. It is also doubtful if existing inks can be made to dry any more quickly on the existing type of paper. One solution to the problem would be the use of a blanket on the second impression cylinder which is not receptive to ink and hence would not accept the set-off, but until the necessary work has been done along these lines the only precaution which is effective is to put important half-tone illustrations in the outer forme instead of the inner.

T.-O. Mechanical Conference

Now becomes Western Division of S. N. P. A. Mechanical Conference to meet annually in February

BY unanimous vote, the Texas-Oklahoma Mechanical Conference has accepted S.N.P.A. sponsorship and has become the Western Division of the Southern Newspaper Publishers Association Mechanical Conference. The action was taken at the meeting of 80 mechanical executive delegates in Ft. Worth on May 2. The S.N.P.A. Western Division meetings will convene annually hereafter on the third Monday and Tuesday of February each year. The 1939 meeting will occur on February 20 and 21, meeting place to be selected by the executive committee.

In this connection, it has been announced by Cranston Williams, Secretary-Manager of the A.N.P.A., that the Eastern Division Conference will be held in Atlanta, September 12 and 13 at the Atlanta Biltmore hotel.

In addition to the states of Texas and Oklahoma, the Western Division will include all of the S.N.P.A. territory west of the Mississippi River, which takes in Arkansas and a part of Louisiana.

The Western Division Mechanical Conference will be handled by a committee of seven members. A new member is to be elected each year. This year's committee consists of Chairman A. T. Blease, Corpus Christi (Tex.) *Caller-Times;* W. J. Phillips, Oklahoma City (Okla.) *Oklahoman and Times;* A. I. Lundberg, Ft. Worth *Star Telegram;* H. J. Gibson, Houston *Chronicle;* O. M. Harper, Tulsa *World;* Martin Moxley, San Antonio *Express and News;* Leven T. Deputy, Dallas *News and Journal.*

In the discussion on ways and means for conserving newsprint, the conference voted opposition to 4 pt. column rules; as the result of the report of a stereotypers' committee, opposition was expressed to greater mat shrinkage than 9/16 in. because of the manipulating difficulties; for good appearance of the paper, at least 3/8 in. margin is desirable.

In the opinion of the conference, commercial color comics to be run with color comic pages should be standardized. In the latter action, A. I. Lundberg, W. T. Phillips and Leven Deputy were appointed a committee to confer with advertising agencies.

Because of abuse of the custom by a few members and by outsiders, a resolution was passed in opposition to the setting up of bars in headquarters hotels.

Just What Is Wear In A Bearing?[1]

MOST everyone knows, or should know, that friction opposes motion and to keep machinery in motion it is necessary to supply a force sufficient to overcome the friction. The moment that the propelling force is cut off, the machine slows up and will eventually stop. Perpetual motion has never been discovered because we have not yet found out how to completely overcome frictional resistance.

If we take a microscope and carefully examine the surface of a shaft or bearing, we will at once understand why friction exists. By the aid of the microscope we will readily see that the bearing or shaft is actually quite rough even tho it may look very smooth and polished to the naked eye. On the most carefully machined and ground bearing surfaces there exists numerous little projections and depressions. These irregularities engage with one another to such a degree that considerable force is required to slide the surfaces past each other—in fact it will be impossible to slide them unless some of the little projections are sheared off, and of course, this requires the expenditure of energy.

In starting up a new machine, the operator usually runs it below the rated speed and under reduced load and carefully watches to see that there is no excessive heating in the bearings and other moving parts, after which the load and speed are brought up to the rated capacities. In spite of this careful watching, it usually requires a rather long period of actual service before the machine is thoroughly broken in and operates in a normal manner.

One reason for this "breaking in" process is that with the best of technique in machining and finishing the working parts, the surfaces of the shafts, bearings, etc., are relatively rough and irregular as compared to the minimum thickness of the film of lubricant between them. Thus even under rather light operating conditions, the high spots on the journals tend to strike those on the bearings, causing local breakdown of the lubricant film and corresponding increase in friction and heating. When these high spots come together, however, unless the surfaces are too rough or the load too great, a smoothing action takes place by tearing off of particles on the high spots. This dissipation of metal is what is termed "Wear."

The relation of the surface finish of metals to lubrication is a subject that has received no small amount of attention during the past few years. It is generally conceded that properly fitted and lubricated working parts never touch each other while in operation, but are held in spaced relation by the lubricating film. It has been said that finely finished surfaces can be considered not so much as bearing surfaces but as "races" on which the molecules of the lubricant roll. In the study of lubrication, engineers are today giving more attention to just what constitutes a finished surface with a view of obtaining a broader conception of the relation of lubrication to a finished surface for after all, it is the surface which the lubricant film is attached. The part played by exceedingly thin films on metal surfaces has only been fully appreciated in recent years.

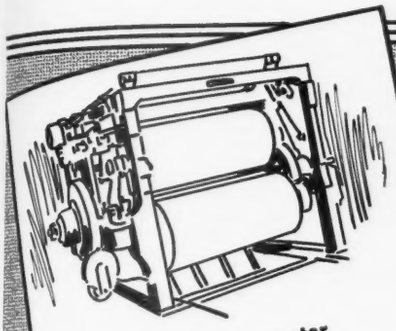
[1] *Printed by permission of Lubriplate Div. Fiske Brothers Refining Company, Newark, N. J. and Toledo, O. A bulletin entitled "The Control of Friction," is available. The Bulletin specifies Lubriplate Applications for all kinds of bearings, ball and roller bearings, chain drives and gears.*

Norma-Hoffman Elections

At a recent meeting of the Board of Directors of Norma-Hoffmann Bearings Corporation of Stamford, Connecticut, Walter M. Nones was re-elected President of the company. Odbert P. Wilson was elected Executive Vice President and Treasurer of the company.

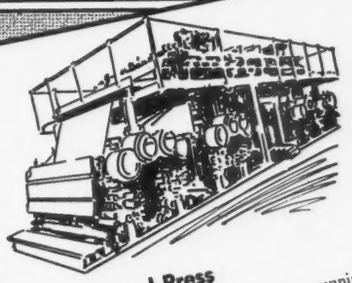
This action delegates to Mr. Wilson, who has been associated with the company for twenty-four years, the executive duties and responsibilities which Mr. Nones has carried for twenty-seven years. Harold J. Ritter was re-elected Secretary of the company.

FOR BETTER AND MORE ECONOMICAL PRINTING OF NEWSPAPERS



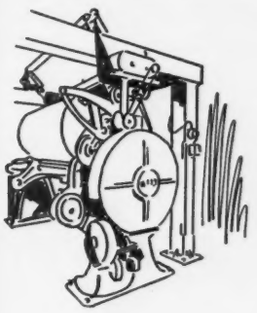
Full-Automatic Autopaster with Autoreel

Splices paper-rolls automatically at full press speed. Steps up press production, reduces waste, and improves printing quality. Average accuracy in records which include more than 100,000 splices, well over 98 per cent.



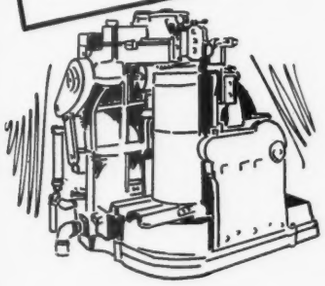
Wood Steel Press

Press and Folder can be operated at running speeds up to 60,000 products an hour.



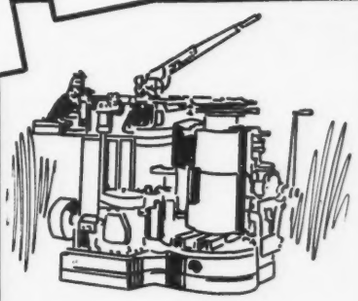
Junior Autopaster with Standard Reel

This machine, like the Full-Automatic Autopaster, makes its splices at the full running speed of the press. Its cost, however, is considerably less.



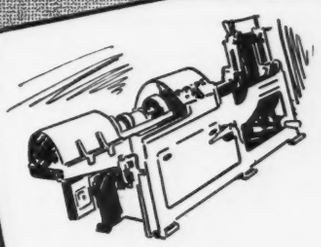
Automatic Autoplate

The modern method of making newspaper printing plates in quantities. Insures a fixed and dependable production of four plates a minute.



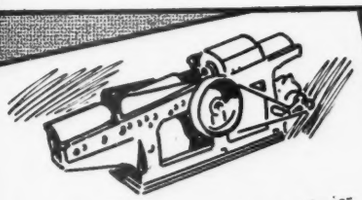
Junior Autoplate

Standard equipment for casting stereotype plates in many big newspaper plants throughout the world.



Heavy-Duty Pony Autoplate

This is the latest development of the Pony Autoplate for casting, finishing and cooling printing plates, for large and medium-size newspapers.

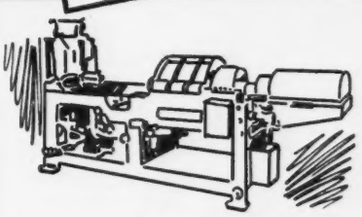


Autoshaver

Used in connection with Automatic and Junior Autoplate machines for accurately finishing, cooling and drying stereotype printing plates.

Vacuum Back

A recent Wood development, adaptable to all Wood Autoplate casting machines, which promotes definitely better stereotyping, eliminates light spots due to buckles in mats, and prevents mat creeping.



Standard Pony Autoplate

This is the standard Pony machine for casting, finishing and cooling plates, used in hundreds of newspaper stereotyping plants throughout the world.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • NEW YORK OFFICE: 501 FIFTH AVENUE

Working Model of Power-Lift Form File

What is believed to be one of the few actual working models ever made of such an intricate piece of newspaper production machinery has been constructed by Sta-Hi, Inc., in the form of a miniature Power-Lift Form File, occupying but 1/64th of the space required for the full-sized composing room equipment.

Fabricated in the Sta-Hi Los Angeles factory, the model was built to be used as part of the company's exhibit during the ANPA Mechanical Conference. It will then be available for demonstrations in newspaper plants.

An idea of the size of the model can be obtained from the accompanying cut, showing the machine and an ordinary sized newspaper rolled as for delivery.

The model is 25 in. high, 11 in. wide and 6 in. deep. The filing trays measure 7¾ in. by 6 in. Duraluminum and brass were used for metal on the job. Control is effected through a thimble-sized three-way valve operated by a 1½ in. lever, and for power a midget universal type of motor of approx. 1/50 hp. is utilized.

The model operates in every way the same as a large Form File. It has identical electrical connections, including two-minute, specially built limit switches with pin-point sterling silver contacts. Filing trays slide on rollers 11/32 in. diam. Inside diameter of hydraulic pipe lines is slightly greater than the size of a pencil lead. Special oil had to be found to circulate through such a small aperture, and less than 12 oz. of oil is required for operation. Pressure is maintained by a hand-built pump with outside diameter of 1⅛ in.

Built for use with the machine are small duplicates of page forms, complete even to chase with lock-up screws, and a scaled-down makeup truck, operating in the same manner as a full-sized turtle. Weeks of fine hand and tool work were required to build the model.

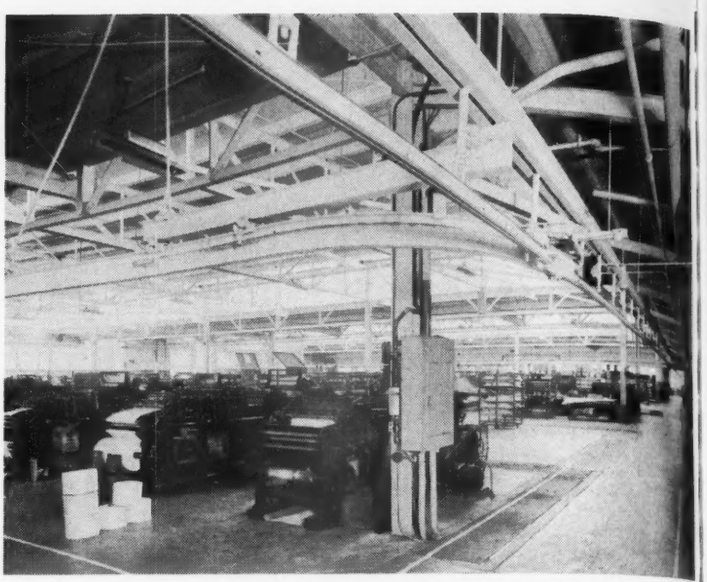
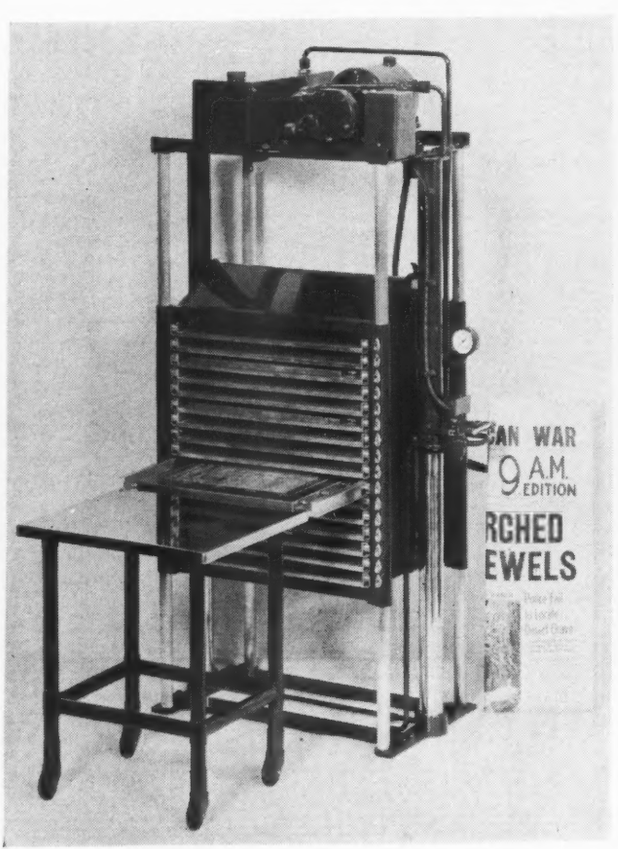
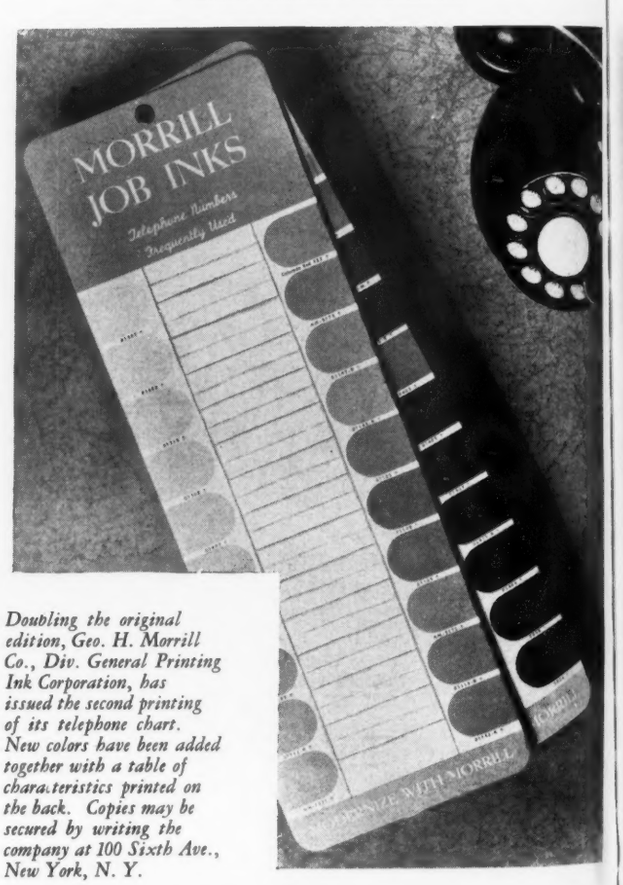


Photo Courtesy The Austin Co., Engineers and Builders

Here is a view of the pressroom in one of the recently completed buildings erected by the Austin Company for the Standard Register Company, Dayton, Ohio. Flexibility of working areas and conveyor facilities are outstanding features. Service facilities have been concealed under the plates in floor trenches. The overhead monorail system is made flexible by switches (one can be seen in the picture) for conveying printed forms andcarbon paper to the collating department. Monitors in the roof completely enclosed by glass block admit natural daylight to the pressroom. In addition, artificial illumination of twenty foot candles is provided by combination low pressure mercury vapor-Mazda lamps. Inasmuch as the major objective of frictionless form-feeding is to insure absolute register in recording on multiple business forms, precision printing is the first requirement of the manufacturer. In expanding its facilities, Standard Register has made special provision for inspection of plates with precision gauges and microscopes which determine errors down to one-thousandth of an inch in spacing or alignment.

Phone Chart Available





Doubling the original edition, Geo. H. Morrill Co., Div. General Printing Ink Corporation, has issued the second printing of its telephone chart. New colors have been added together with a table of characteristics printed on the back. Copies may be secured by writing the company at 100 Sixth Ave., New York, N. Y.

NEW QUALITY IN NEWSPAPER PRINTING!

BLACK
solids-new snap and life

CLEAN
highlights & middletones

ROLLERS
kept cool — kept clean

See FRAPOMIST

BOOTH 13 AT THE 12th ANNUAL MECHANICAL CONFERENCE, A.N.P.A., TORONTO, JUNE 6-7-8

Come to the FRAZIER booth, and see for yourself what actual tests have proved about FRAPOMIST on black and white and color supplement reproduction. See how easily this simple device can be installed on any newspaper press. See how little it costs to give your newspaper this better, cleaner printing.

In Canada

TORONTO TYPE FOUNDRY CO., LTD.
120 WELLINGTON STREET · TORONTO
MONTREAL · HALIFAX · REGINA
WINNIPEG · VANCOUVER

Newspapers need no longer tolerate gray, ugly blacks in solids and halftones — weak, dirty middle tones. FRAPOMIST roller spray, atomizing a fine mist of water direct on rollers brings the magic of new life to newspaper reproduction. Born in the mind of a practical pressman to meet roller and distribution difficulties, FRAPOMIST is the simple and direct correction of inking problems. Now high speed news presses produce a magazine-like quality in clean, contrasty halftones and deep, clean black solids. The fine water spray reduces roller friction and keeps rollers cool. Auxiliary spray of Frazier Rubber Roller Dressing keeps roller surface tacky and clean — prevents ink caking and scuffing.

FRAPOMIST

Frazier Processes Incorporated

728 S. DEARBORN STREET, CHICAGO • 50 CHURCH STREET, NEW YORK CITY

Iowa Conference

Successful meeting held in Council Bluffs with 167 registered —McMurtrie and Warfel Talk.

AT the Iowa Mechanical Conference held in Council Bluffs on May 16 and 17, a proposal was received by the conference from the Inland Daily Press association suggesting that the scope of the Iowa Conference be enlarged to include twenty states under the sponsorship of the Inland Association. After considering the invitation, the mechanical executives instructed President Funk to appoint a committee to meet with representatives of the Inland Association for discussion of the proposal. The committee appointed by President Funk will report at the Iowa Mechanical Conference meeting next year in Des Moines and is expected to make a recommendation at that time.

The Iowa meeting this year was successful in every way, 167 being registered. Mechanical executives from the following states were in attendance: Iowa, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Wyoming, Colorado, Missouri, Illinois and Ohio.

All of the officers were re-elected. These are: Ed Funk, President; Mr. Funk is composing room superintendent of the Waterloo (Ia.) *Courier*. Guy Chappell, Vice President; Mr. Chappell is superintendent of the Iowa City *Press Citizen*. Paul Kamler continues as secretary-treasurer; he officiates as composing room superintendent of the Clinton (Ia.) *Herald*.

Des Moines was selected as the 1939 conference city.

Monday Morning

The meeting opened on Monday Morning, May 16, with President Funk presiding. The Address of Welcome was given by Robert O'Brien, Publisher of the Council Bluffs (Ia.) *Nonpareil*.

Owing to the inability of Mac Sinclair, editor of *Printing* Equipment *Engineer*, to be present, his paper on "What Is New In Newspaper Mechanical Equipment and Methods" was read by C. E. Moffit, Mechanical Superintendent of the Ft. Collins (Colo.) *Express-Courier*. The editor discussed the wood pulp situation; the present wave for newsprint conservation, and means for reducing newsprint consumption. Other new things touched on were the Sauerwein development for inserting pre-printed inserts for newspapers, operating developments in connection with high-speed newspaper presses, Wale rotary press, and the new Huebner rotogravure cylinder making method whereby cylinders are sensitized and images are laid down on the cylinder direct without the use of carbon tissue. A recent development is the movement among a number of the publishers of weekly and semi-weekly newspapers to install plate-making equipment and presses for printing by offset; the Varityper and Printasign machine enter into composition of reading and display matter. The discussion was closed with comment upon the virtues and qualities which should dominate the newspaper mechanical executive.

"Practical Problems of the Photo-engraver" was the title of the discussion by Engraving Superintendent Huntington of the Council Bluffs (Ia.) *Nonpareil*. Visiting executives like to see "what the other fellow's got." Accordingly, many availed themselves of the invitation of Mechanical Superintendent George Fouts to inspect the Council Bluffs (Ia.) *Nonpareil*.

Monday Afternoon

"Streamlining Newspapers" was the title of the address delivered by Douglas C. McMurtrie of the Ludlow Typograph Company. The topic is particularly timely because of the interest in improved reading ease of which Mr. McMurtrie is an exponent.

After Mr. McMurtrie's address, the meeting adjourned to meet in two group sessions, one for the composing room and machinists and one for the stereotype and pressroom executives for discussion of problems of particular interest to each group.

Howard Lee, Ottumwa (Ia.) *Courier*, presided at the composing room and machinists' meeting. Guy Chappell, Iowa City *Press-Citizen*, presided at the stereotype-pressroom session. A lively discussion arose concerning the finding of the best method for determining cost of making stereotypes when presenting a report to management. A committee was appointed to investigate and report at a later date.

Tuesday Morning

At the Tuesday morning session, Leon A. Link, Composing Room Superintendent of the Akron (O.) *Times-Press*, delivered a talk on "Co-ordination of Mechanical Department Activities." An abstract of Mr. Link's paper appears elsewhere in this issue. This talk was well received.

W. W. Warfel, Chicago office of Chemco Photoproducts Company, discussed "Problems and Hazards of Small Engraving Plants." Photo-engraving is a subject of great interest to the newspaper executives and his listeners gave Mr. Warfel undivided attention.

Seventeenth Printing Education Conference

THE Seventeenth Annual Conference on Printing Education will be held in Washington, D. C., June 30-July 2 at Hotel Washington. This is the third conference under the sponsorship of the National Graphic Arts Education Guild. There will be fifty-two speakers—leaders in education, industry and government. There will be three morning sessions, two luncheon meetings, two evening sessions and the afternoons will be devoted to inspection trips. Special sightseeing and shopping trips will be arranged for the ladies.

On the opening morning, Thursday, June 30, the speakers will be George R. Keller, Washington Manager of the American Type Founders, Fred W. Hoch, Supervisor of Production Management, United Typothetae of America and chairman of the Educational Commission of the International Association of Printing House Craftsmen, and George Welp of the International Printing Ink Corporation, New York City.

Research in Graphic Arts Education will be the theme of the second morning's session, with Professor Glen U. Cleeton of Carnegie Institute of Technology presiding. Special research projects will be discussed by R. Randolph Karch, Rochester Athenaeum & Mechanics Institute, Rochester, New York; Anthony Marinaccio, Henry Barnard Junior High School, Hartford, Connecticut; and Henry Hansberg, New York City.

On Saturday morning, July 1, the Conference will consider the major activities of the Guild program in retrospect and prospect, under the chairmanship of Allan Robinson, principal of the Ottmar Mergenthaler School of Printing, Baltimore, Maryland. Chester A. Lyle, McKinley High School, Canton, Ohio, will report on Printing Education Week. Harold H. Kirk, Langley Junior High School, Washington, D. C., will stage a special program showing the development of the student club movement in the leading printing schools of the country. This will be followed by the annual business meeting and electing of officers, presided over by Harold G. Crankshaw, Central High School, Washington, D. C., president of the National Guild.

At a luncheon meeting in the U. S. Government Printing Office on Thursday Hon A. E. Giegengack, Public Printer, will be the speaker. On the following afternoon the luncheon will be served at the U. S. Bureau of Engraving and Printing, with the Hon. Alvin W. Hall, Director of the Bureau as the speaker. Visits will be made through both plants.

On Thursday evening, June 30, Frank M. Sherman, Lanston Monotype Machine Co., Philadelphia, will give his lecture on "The Genesis of Printing—A Story of Bible Printing from Gutenberg to Rogers". A Special Bible exhibit will be on display.

On Friday evening, July 1, the annual dinner meeting is scheduled, with an unusually attractive program. The Washington Club of Printing House Craftsmen is co-operating with the National Guild in this meeting. The annual keepsake, an especially prepared booklet, written by Harry L. Gage, and printed by C. Harold Lauck, Laboratory Press, Washington and Lee University, Lexington, Virginia, will be distributed. J. Henry Holloway, principal, of the New York School of Printing, New York, N. Y., will be the toastmaster.

Lanston Monotype Operations

President Harvey D. Best reported to stockholders annual meeting at Alexandria, Va., on May 5. The president's report showed operations and balance sheet for the fiscal year ended February 28 of the parent company and its wholly owned subsidiaries: Comphania Lanston do Brasil, S. A., Monotype Company of Canada, Ltd., and Monotype Company of Canada. Net profit for the year is $220,373.91. This is after taxes paid and reserves for Federal, State and other taxes totaling $129,495.54, and reserves for depreciation of plant and amortization of patents of $138,689.63. Current assets are twenty-three times current liabilities. For each dollar paid to stockholders in dividends, taxes amount to 62 cents. Over the past two years company taxes have increased 43 per cent.

During the year, the president reports, the company invested $96,438.21 in new machinery. Factory departments were relocated. Engineering and experimental departments and tool rooms were enlarged and improved.

Engineering progress has been made on important new improvements to the Monotype composing machine. Development work is now finished or in process on additions to the Monotype-Huehner line of photo-mechanical equipments. Included in the latter is the new Universal Process Machine for making multiple negatives, scribing lines for ruled forms and making test proof plates.

Matrix manufacturing department has been busy producing a number of new faces and the work of cutting additional odd sizes of existing type families has gone forward. The outstanding achievement, states the president, was the completion of the Monotype Twentieth Century Family. A detailed list of additions to the matrix facilities for the Monotype user are given.

✓ *Check* THESE POINTS WITH OTHER ROTARY *Presses*—

REMOVABLE FOUNTAINS—Easily removed from the press for cleaning, changing colors or storage.

COLOR REGISTER—Made simple by special devices for longitudinal register while the press is running.

4 COLORS ON ONE UNIT—Each unit built to take extra color cylinders, making it possible to print 4 colors on one side of web in the same unit.

ONE PLATE TO REGISTER—The tubular principle using one plate per page cuts stereotyping, routing and make ready expense in two.

FOLD CENTERING DEVICE—A novel invention for setting fold while press is running.

PAGE JUMPS BY TWOS—All page jumps in multiples of two—a large saving in composition, news print on certain page combinations.

30,000 TO 40,000 OPERATING SPEED—According to type of work and conditions, possible and practical because of generous use of anti-friction bearings.

SECTIONAL PRODUCTS—May be provided when desired—two, three or four-section products.

REELS AND PASTERS—Substructure may be built so that standard reels and pasters may be installed.

EASE OF OPERATION—All operating controls are placed in convenient locations for ease and safety for pressmen.

SIMPLICITY—Simply designed, easy to understand and adjust.

U N I T U B U L A R

DUPLEX

PRINTING PRESS COMPANY

BATTLE CREEK, MICHIGAN

Mat Splicing

Technique explained—Writer also discusses weaknesses in newspaper syndicate and foreign reproduction

By ALBERT L. LENGEL*

WHILE not a new invention, mat splicing is an improved art and was mothered by the necessity of securing better newspaper reproductions in an economical way. Under the pressure of circumstances and growing opportunities for its application, mat-splicing became something of a natural. Today, after five years of concentrated use this method of handling fractional-size four-color supplement ads has a permanent place in the stereotype rooms of many West Coast newspapers, including members of a Sunday color magazine group. In these plants are produced stereotype curved plates from spliced mats. All popular makes of stereotype plate-casting equipments, excepting Automatic Juniors, are used.

Justification for Mat Splicing

Several years ago, it was common practice to reproduce half-page comic color ads by flat-casting stereotypes of the four-color ad mats and likewise the four-color comic feature mats by registering these flat casts as nearly as possible on bases in forms (two yellows together, etc.) then molding them with regular dry mats to get both subjects on the stereotype curved plate. The variable shrinkages of all the mats involved (12 to make a full page) together with resultant poor quality and register, made justification for use of the mat-splicing method easy, even if a mat was lost occasionally in the splicing operation. A lost splice is very rare nowadays in the plant using the splicing technique. More than 30 may be used in completing a set of color stereotype plates for one Sunday issue. With the volume of color comic advertising in use today our situation would be intolerable without the mat-splicing facility.

Date line, signature or strip ad splicing on occasion is a practice probably as old as the use of wet flongs. It is a popular expedient today in connection with full-page mats, or where splicing of ads and subject matter require further detail to complete the page.

Same Generation as Electro

Fractional page feature section color ads are usually received as original copy, in vertical or horizontal half-page minimum. These are taken directly from the original zincs and sent to the newspaper plant in direct pressure baked mat form. This implies that when they are spliced into a page the curved stereotype plate (as mentioned in part one of this article) is the same generation as an electroplate so far as the ad is concerned. The only complicating situation is brought about by the several varieties of dry mats used in the various plants on syndicated features. The ad may be positioned in the layout irrespective of what feature falls on the page. In magazine color where only a ket mat is spliced, the local dry mat offers its peculiarities. The entire situation would be simplified if all syndicate features, particularly color comics, were supplied in direct pressure baked mat form and in standard widths to permit of splicing practices where desired. This would insure the highest reproductive values and register.

Fractional Page R.O.P. Color Ads

While full-page "foreign" color of any description should always be forwarded in direct pressure baked untrimmed mat form, the splicing practice can well be applied to "foreign" fractional page size r.o.p. color ads of one, two or three additional colors as well, providing the copy is arranged to be reproduced by the splicing method. In this case the ad would be positioned on a lower corner of the page—probably lower right-hand, whether vertical or horizintal—and taken in full-page untrimmed mats; with the color or colors permissible to full ad size, and a splicing allowance on the key mat of $\frac{3}{8}$ in. inside the full copy dimension on all borders of the ad designed to be spliced. The color mat or mats are simply trimmed in accordance with local requirements and cast as full pages. The question might arise as to what happens after the splice is used on an early edition and the desire to change the editorial matter on a later edition arises. This situation is hardly possible because the continual changing of color plates on every edition is a most impractical and unsatisfactory practice.

Safety Measures

The set of mats, in direct pressure baked mat form, will permit flat-casting in case of splicing trouble. If doubtful about splicing success, these casts might be taken as a safety measure, then proceed with splicing on the key; secure the necessary number of plate casts from it, then cast up the stereotype plate colors. The unfinished flat-casts will be ready in an emergency. In the early adoption of this practice with r.o.p. it might be well to supply two key mats. Where large numbers of stereotype plate casts are required, the number of mats necessary would be governed by the quality of mat furnished and the number of casts which could be produced safely. This would apply, of course, to plants that take upwards of four or six plate casts for color.

First Attempts at Splicing

If the newspaper plant operates a hydraulic molding press with mat-drying platen, it would be possible to flat-cast the key mat, register this cast in the daily form and pull a full-page direct pressure baked key mat with which to complete the color set, retaining the privilege of securing stereotype plates from the direct pressure baked color mats to hold registration features, and suffer one generation loss in the key plate without splicing any mat to include local matter in the page. Some distortion might occur on the first attempts, but such distortion should only be temporary, as the entire procedure would be under local control. When a successful splice is made, one is assured that he will come close to reproducing all the quality and registerable values contained in the original mats.

*Production Manager, Oakland (Calif.) *Tribune*.

BURGESS CHROME MATS

BURGESS CHROME MATS

Attention:

A.N.P.A. Mechanical Executives Attending Convention, Toronto, Canada

June 6, 7, 8, 1938

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors

BURGESS CHROME MATS

FREEPORT - ILLINOIS

Printed in U. S. A.

BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

Overcoming Different Insulating Factors

One experience with spliced mats where dry mats and direct pressure baked mats form the combination in one page is that different insulating factors in casting plates have been noticed. The baked mat area of the plate may cast with pin holes in the solids while the dry mat area will be clear. This has been overcome in most instances by faster casting after a heater cast has been taken. This led to the practice of minimum mat scorching to prevent overheating or burning the splices and to acquire top heat condition in the mat with a heater cast. The heater plate casts from all color pages are rejected.

The splicing of large "foreign" black ads of less than full-page size might be done readily at present. Of course the full-page should be direct pressure baked mats in untrimmed form, the same as color. Particularly for supplement sections, it would amount to the same thing as splicing a key mat for a color ad in a magazine section.

The most difficult form of mat splicing is with a color ad made up of multiple tie-in ads that create two or three splicing steps of different lengths and widths. These have been handled successfully on color supplements.

Handling Fractional Size Areas as Full Pages

There are instances where direct pressure baked mat values can be retained and splicing of mats avoided by handling the fractional-page portions as full pages and running enough press cylinders to permit of registering the various fractions into full pages on the press. For example, a half-page four-color ad might run two black cylinders. Or if no color were involved, particularly in small plants having excess equipment or possibly a color cylinder attachment, large foreign ads taken from full-page direct pressure baked mats might be run on one cylinder. The balance of the page taken from local mats could be run on another. This will obviate both splicing and flat-casting. This practice would also be advantageous if the subjects were of the "bleed" variety. However, while this is one sure way of retaining reproductive values without splicing, it has peculiar local values and could not be considered as a national practice.

Use of Direct Pressure Baked Mats Insures Registration

Colors for "foreign" r.o.p. illustration might be forwarded in full-page direct pressure baked untrimmed mat form and the key material set locally, if it can be considered as time copy, and if it required no close illustrative register or superimposed colors.

Many devices and methods are used to secure register in color printing on newspaper products. This article deals somewhat with subject registerability but not flat or curved mechanical plate register. Perhaps the greatest value in direct pressure baked mat reproductions in full or spliced pages is the maintenance of color registerable values. Barring dry mats and overworked zincs on syndicate color, these mats would make most all local plate register methods more effective.

Sometimes "Striking-in" Method Best for R.O.P. Color

Occasionally, multiple electroplates are received for an r.o.p. one or two additional color ad that could better have been made in one electroplate. By making only one local mold and casting as many curved stereotype plates as are needed and "striking-in" the color or colors the plates can be routed accordingly. By this means stereotype plates can be produced which will be square with each other and the possibility of having to cock them on the press cylinders in order to get them in register will be minimized. Few curved stereotype plates lay on the cylinders correctly. When routed and twisted into register, a bad condition is aggravated and many tangible losses and interferences to production result. When multiple-color electros are received that permit of "striking-in" practices we do this first on the electro plates by mortising, etc., and proceed as above outlined. Direct pressure baked mats in this case would save a "generation" but should not affect its registerability.

Technique of Splicing

While the principles of mat-splicing are similar on all varieties of makeup, the procedure will be explained in connection with a comic half-page feature and a color ad. The partial mats to be spliced are first ruled off in approximate splicing lines. They are then trimmed accordingly on splicing border or borders for splice only. Then the edges to be spliced are beveled or skived proportionately with each other to feather edges—one from the front of the mat, the other from the back. Place the two key mats in a register device, square the subjects with each other and set the register points on each with intended splices in position. Then place half-inch gum-tape hinges on the outside margins and across the splice. These hinges will maintain registerable relationship when removing the mats from the register device preparatory to pasting the splice itself.

Follow this by placing the two red, yellow and blue mats in the registering device on the points of register, with the splices in position, and fix them with the gum-tape hinges. The half-pages are now in registration and the gum-tape truly functions as a hinge, permitting the closing of the half-pages into individual books and thus exposing the beveled edges for application of the paste. Care must be taken to avoid buckles in the gum-tape. Sphinx Paste is used as an adhesive. It must be applied evenly, generously and firmly—but not roughly. Inspect the treated edges for consistent coverage of the paste. Then reopen the books with due regard for handling which might cause gum-tape buckles. Rub the splices firmly and smoothly. Then place a number of splices on top of and in line with each other and place a piece of type-high base about 2 in. wide the length of the splices. Allow to set well for several hours, unless you have mat-drying equipment with which to speed up this part of the process.

When making splices other than horizontal half-pages, such as color comics, etc., the gum-tape covering the mat joint is often left off the face of the mat (because of smaller splicing area) and applied to the back. The face weld of the splice is covered with a narrow strip of tissue by using the same paste.

Preparing Mat for Casting

In preparing the mats for casting place a thin strip of gum-tape over the exposed bevel edge on the casting side of the mat only. This gum-tape represents the only over-thickness of the mat in any portion of the splice, and is designed merely to prevent a possible pulled mat at the splice. If the gum-tape peels in some spots, it takes but little time to replace it with another piece.

In some registering devices, the spliced mat is marked for trimming at the same time the half-page splices are registered, requiring only one register treatment before casting. Mats are not trimmed until splices are completed. Trimming removes the gum-tape hinges.

Splicing Knife

The mat beveling is best done with a harness-maker's half-round knife, measuring about 4 in. across the radius.

705

Daily Newspapers Are Using Booth's Zink Cut Cement

Are You?

The Fastest known cut-mounting method

Most economical means for mounting cuts

Fastens all kinds of cuts to wood or metal base

▼

Write for complete information

E. A. BOOTH
RUBBER COMPANY
364 ROCKEFELLER BUILDING · CLEVELAND, OHIO

The knife is used in conjunction with a piece of plate glass about equal in area to a newspaper half-page.

While the mat-splicing method does not involve anything revolutionary in materials or equipment, it could be greatly facilitated along these lines. It is a means of preserving printing values in many instances and asks little by way of art revision only in certain types of copy. A better understanding of its possibilities in connection with full-page as well as smaller direct pressure baked mats, leading to standardization of measurements and reproduction practices, would aid materially in solving many of our reproduction problems with all varieties of foreign ad and feature copy.

NEW METRO COMBINATIONS

"Our combinations of Metromedium No. 2 with its italic, and Metroblack No. 2 with its italic, in sizes from 8 to 24-point, are proving so popular," says C. H. Griffith, Vice President, Mergenthaler Linotype Co., "that we have designed a companion italic for duplexing with Metrolite No. 2, in all sizes from 8 to 24-point.

Star and Bridle Club
Starts Treasure Hunt

Star and Bridle Club
Starts Treasure Hunt

"Metrolite No. 2 with Italic can be used for heads on society, women's and feature pages of newspapers, just as Metromedium No. 2 with its italic, and Metroblack No. 2 with its italic, are being used on other pages, and all three combinations can be used in the advertising columns and in a wide range of commercial printing."

The Utility of Air Conditioning

By Wm. B. Henderson*

TRUE air conditioning means principally the control of three fundamental elements—temperature, humidity, and air circulation. In winter the air is heated and humidified by adding the requisite amount of moisture. In summer the air is cooled and excess moisture removed. The treated air is cleaned and scientifically circulated. The result is air best suited for the purpose in mind—human health and comfort, or the processing or preservation of products in industry. It is a statement of simple fact that the air conditioning industry today can duplicate almost any weather condition. It endeavors to slove problems even before they become problems.

For many years air conditioning was used entirely in connection with industrial processing. Only within the last fifteen years has it come into general use for human health and comfort. That is why air conditioning is so generally thought of as a "new" industry. Its fundamental principles are old and have been utilized for many years. Its potentialities for the comfort and well-being of the human race have barely been tapped.

*Executive Vice President, Air Conditioning Manufacturers Association, abstracted from discussion presented before Members' Council of the Association of Commerce, New Orleans, La., recently.

Press Shipment Completed

Shipment of new press equipment to the Methodist Book Concern, Cincinnati, has been completed by The Goss Printing Press Company, Chicago. This new Goss 32-Page Single Deck High Speed Anti-Friction Magazine Press will be used to produce various publications. It is built for printing black with extra color on one side, having provision for printing color on the other side at some future time. The press is equipped with a two-page wide right-angle pinless collecting gripper jaw folder and a double delivery. The running speed of this press is 15,000 cylinder revolutions per hour. It will deliver four different 8-page products or two different 12 or 16-page products or one 24 or 32-page signature, all signatures being pasted. The new press of the Methodist Book Concern is arranged for adding dryers at a later date.

How to Avoid Specks of Dirt in the Print

HOW pleasing the appearance of a halftone or solid plate print without a speck, every square inch smoothly covered with a smooth film of ink! But how seldom nowadays do we see such clean prints. Are the pressmen getting careless or has production been speeded up to the point where the necessary pains can not be taken? Some pressmen will tell you the order is to get the work out. The foreman will come along and say watch the color, turn out a clean job with no specks in the solids but what the pressman is up against is that the job or a similar one had been turned out previously with specks in a certain number of hours and he is expected to reproduce the job in the same time. That unhappily is the first requirement and in meeting it, the pressman is likely to be careless about specks, washing the form now an then if time permits but always with an eye on the schedule set.

The specks may come from the paper, the air, collected dirt on the brush or other parts extending across the press above the travel of the form or from the ink. The pressman can ask the foreman to try to obtain cooperation from the workers who open the containers and in the case of smaller sheets, cut the paper. This will avoid the trouble of considerable paper dirt and dust getting on the feedboard whence it is carried into the inking system of the press, finally to appear as non-decorative specks in the halftone and solid plate prints. A careful feeder or assistant removes a dirty sheet from the top of a lift or pile and together with a careful pressman will keep the brush and other parts from which dirt may fall in the ink, reasonably clean. The foreman should see that sweeping the floor or other work that raises dust should not be done between the regular wash-ups of the press. The pressman and his assistant still have to be careful with the ink.

In some shops ink that has been in the fountain during a run is not returned to the original container but placed in another can for use on forms without halftones and solids. During the run dirt has got into the inking system and the fountain so why mix this with the clean ink in the original container and spoil it for halftone and solid printing?

Pressmen have various notions on the best way to keep ink clean in the can. You may have heard them all. Here is an ink maker's notion. Instead of digging into the ink in the can and leaving holes after each withdrawal, keep the ink level. Cover the level ink in the can with petrolatum or varnish or piece of oiled paper if you prefer but it is not necessary if you seal the edge of the lid of the can with gummed paper as you found it when the ink was delivered and skim off a thin layer of ink when you want to make another withdrawal. This method of excluding air from the can and retarding the formation of skin on and lumps in the ink depends also on a close-fitting lid which is assured if the pressman passes a thin blade under the edge of the lid before removing it, making replacement with a good fit possible. The experienced pressman and his assistant take care that the ink in the fountain is covered with a sheet of oiled paper when the press is shut down for a number of hours or over night but sometimes the steel fountain roller is not washed all the way around as it should be. The partly dried ink is picked off of the steel fountain roller by the ductor roller and carried into the inking system to appear finally as specks in the print.

Sometimes when a fast-drying ink is in the fountain, the press is shut down for a few hours while the pressman works on another press. He may be away longer than he had expected and it is likely that when he returns a complete washup of the fountain may be necessary because the fast-drying ink has started to dry on the steel fountain roller and to skin and perhaps lump in the fountain. It is practically impossible to remedy this condition after it has reached a certain point because if the steel fountain roller is washed all around after the ink has reached this stage of drying, it is impossible to keep some of the dried ink from being churned into the mass of ink in the fountain and the result is specks and many of them in the print and washing the form only removes the specks for an impression or two when they reappear. The only remedy is to remove the ink from the fountain and after a complete washup of the inking system, including the fountain, put clean ink from the can in the fountain and make a fresh start. The mere thought of the time lost doing this when operating on a close schedule is very likely to cause some pressman to sidestep the task and the result is specks and many of them in the print.

Of course, these points are all closely watched in plants that consider high quality more important than speed of production and one way to tell a job has been produced in such a plant is by the absence of specks in the print, "a little thing to look for, a big thing to find."

Norma-Hoffman Promotions

Norma-Hoffmann Bearings Corporation, Stamford, Conn., announces the appointment of D. E. Batesole, formerly assistant chief engineer, as chief engineer succeeding the late Geo. R. Bott. T. E. Rounds of the Engineering Department has been made assistant chief engineer.

These Representative Newspapers

— and many others — are using the KLEAN-O-MAT PROCESS to keep their line-casting machines in peak operating condition and to hold down production costs. Full information and comparative cost analysis furnished on request. See exhibit—Booths 10 and 11—at A. N. P. A. Mechanical Conference, Royal York Hotel, Toronto, June 6-7-8.

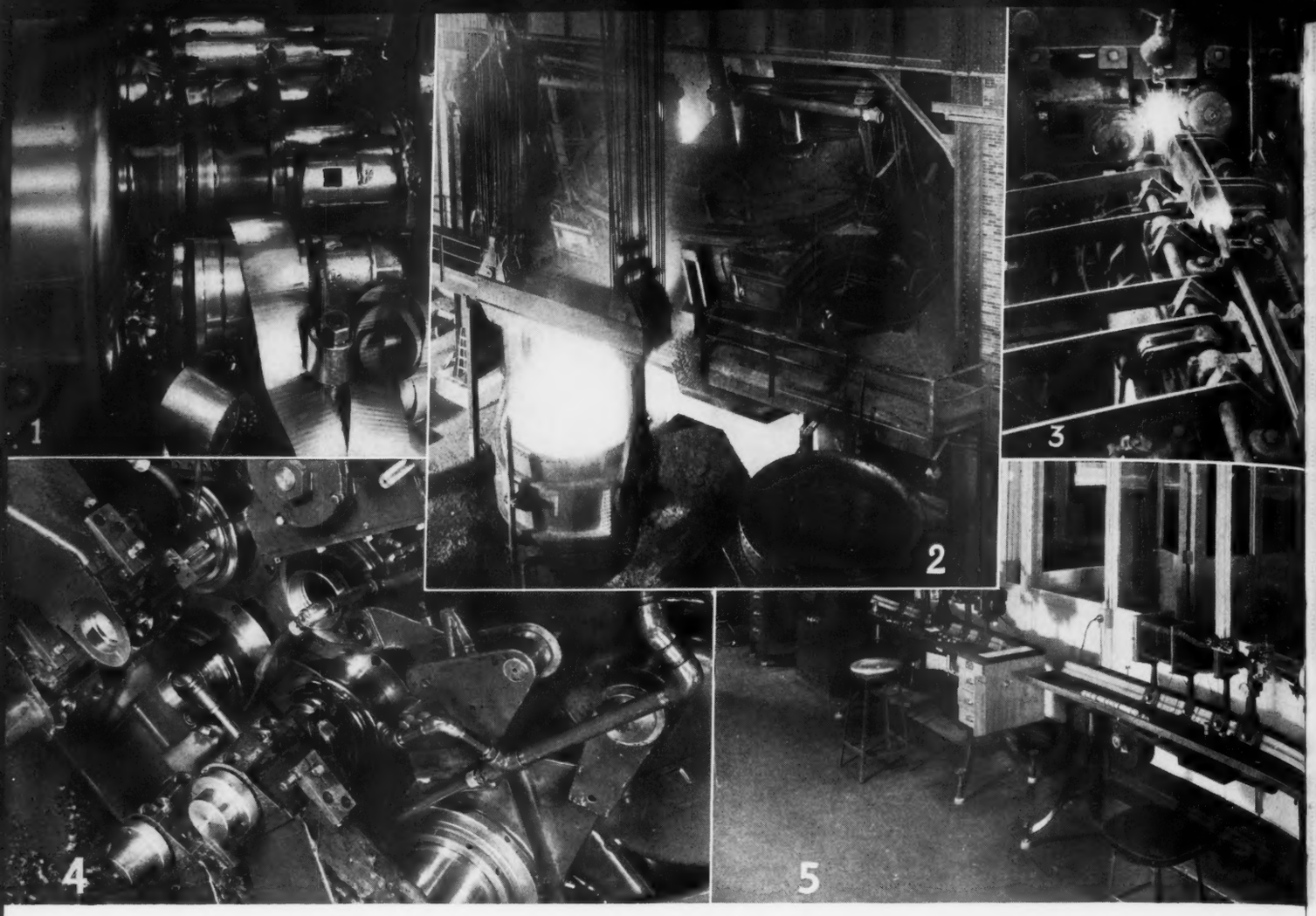
The KLEAN-O-MAT PROCESS is the *only* means for cleaning mats and magazines (mechanically) without running out the mats. Cleans cams, verges and entrances, too.

Approved by Linotype Co., Intertype Corp. and N. Y. Testing Laboratories. Used by U. S. Government Printing Plant.

KLEAN-O-MAT CORPORATION

New York City, U. S. A.

30 Rockefeller Plaza



Something About the Manufacture of *Anti Friction Bearings*

NEWSPAPER and commercial printing plant executives know that ball and roller bearings are used liberally in modern printing equipment, especially in printing presses. Employment of these bearings to speed up production and reduce friction has been accelerated within the past few years. Shown in several views (two installments) are operations vital to the making of anti-friction bearings in the plant of the Timken Roller Bearing Company, Canton, O. It is not possible to show views of all operations but enough are shown to impress the reader with the meticulous care necessary and engineering ingenuity developed in the manufacture of tapered roller bearings.

1. Cone Turning—Approaching completion is the heavy bearing cone or race of a bearing shown here on a single-spindle automatic lathe. A heavy wall seamless tube automatically feeds into this machine. The forming tool under the long chip or shaving in the foreground represents years of experience and is only one of the many specially designed tools.

2. View of what is claimed to be the World's Largest Electric Furnace. Note man on balcony to obtain an idea of size of this furnace. A thrilling sight is the tapping operation when a heat of steel is being drawn from the furnace, where 90 T. of alloy steel is made in a single heat. Under the control of skilled steel-makers, this giant furnace produces the same quality steel as is made in the laboratory. The Timken Company is rated a large producer of electric furnace alloy steel and a large percentage of this steel goes into the manufacture of bearings.

3. *Piercing*—Bearings up to 8 in. o.d. are all made from seamless tubes. Here we see one of the heavy wall, alloy steel seamless tubes coming out of the piercing mill. Heated white hot, a solid billet enters the far side of this mill, passes over a plug and mandrel between whirling rolls under heavy pressure and is literally forged into the seamless tube so necessary for efficient manufacturing operations.

4. Screw Machines—Row on row of multiple spindle automatic screw machines do nothing but make cups, or outer races, for industrial bearings. These machines perform 10 operations in four separate stages, repeating the cycle indefinitely and producing cups at the rate of 90 an hour. Photographed at mid-position we see one of the 4-spindle automatic screw machines advancing in its endless round. The tools are backed away ready to advance again and take up their task in orderly sequence.

5. Metallurgical Laboratory—Ready to read the secrets of the structure of the finished steel is the metallurgical department with its powerful special microscopes. Magnified to 100 or even 1000 diameters, the polished surface of a piece of steel can be read by a metallurgist as easily as a printed page—grain size, cleanliness and uniformity are clearly shown by these instruments. No steel is ever used in a Timken bearing until it has been examined and approved by the Metallurgical Department. This view shows only one kind of laboratory equipment used to control exactly the quality of a standardized product.

Display Matrix Development

Capt. A. T. Mann, Vice President, Intertype Corporation, reports that the recent development of the two-letter display matrix is meeting with the enthusiastic approval of the trade. He says that within the next few months it is expected that practically all Intertype 18 and 24 point faces and advertising figures will be available in two-letter designs. Beton Bold with Beton Medium is shown here in the 24 point size.

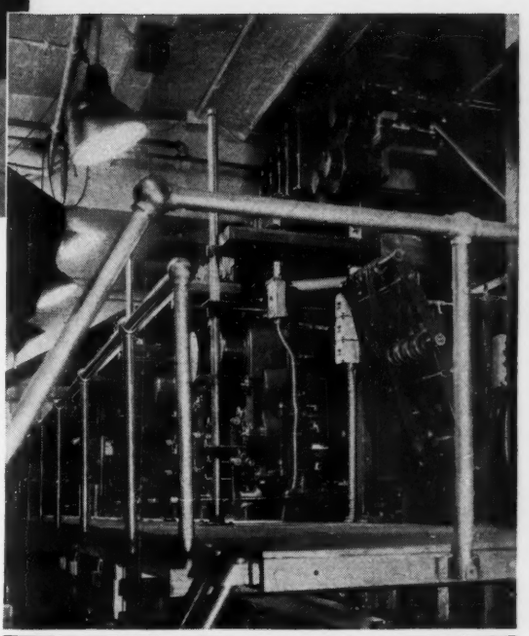
ABC abcdef 2
ABC abcdef 2

THIS paragraph is set in
12 Point Cairo Medium

The Intertype Cairo family is being extended to include the medium weight combined with Italic and small caps.

"★★★★★ FINAL"

IN PRESS-ROOM LIGHTING with TYPE H MERCURY LAMPS



For lighting that penetrates deep among the working parts of the press and shows up every critical guide-roll and adjustment, this "engineered" installation of General Electric Type H Mercury Lamps is the *5-star final* in efficiency . . . and in economy as well.

Along the sides of the press, diffusing angle-reflectors which combine a 250-watt Type H Mercury Lamp with a 300-watt incandescent are installed on 6½-foot spacing. Over the folders, 400-watt Type H Mercury Lamps are used alone. In spite of the low ceilings, pressmen claim it's the best lighted press they've ever worked at. Adjustments are more precise, maintenance is simplified, and papers reach the street more quickly.

For almost every type of press-room and printing-plant lighting problem—composing rooms, binderies, rotogravure and color presses—Type H Mercury Lamps alone or in combination can provide foot-candles for high "seeability" at a cost that's offset by production gains alone. Their light output per watt is higher than any other light source used in industry.

Why not check up on the possibilities of engineered lighting with Type H Mercury Lamps as a means of improving presswork and cutting costs in your own plant? Write either address below for details.

Order your auxiliary devices which were designed especially for this lamp from the General Electric Vapor Lamp Company

The 400-watt Type H Mercury Lamp has the highest light output per watt of any light source used in industry. Its rated operating life is 2,000 hours.

By combining mercury and incandescent lamps in luminaires now available, a psychologically cool, white light can be obtained.

GENERAL ELECTRIC

902H

General Electric Vapor Lamp Co.
899 Adams Street, Hoboken, N.J.

Incandescent Lamp Department
Dept. 165, Nela Park, Cleveland, Ohio

Machine Maintenance

By C. H. JORGENSEN*

Benefits received from use of plant upkeep schedule for composing machines are well worth while

FROM time to time, I have noticed articles accompanied by schedules in *Printing* EQUIPMENT *Engineer* which explain how line-composing machine maintenance is handled in various plants. Our chief composing room machinist, G. W. Wraggett, uses such a system. All plants do not agree on a policy for the systematic cleaning, checking and replacement of parts and the keeping of records. Where a lax maintenance schedule is in effect and in those plants where no controlled plan is followed, things come to a point where a great job of overhauling becomes necessary, at much greater expense than would have been the cost of constant upkeep. In the interim there has been a loss of production over a period of years that would have exceeded the cost of upkeep many times over.

A well supervised schedule keeps machines at the peak of productive capacity indefinitely, not with the object of making them last forever, but of making them serve at peak efficiency until they have been rendered obsolete by newer developments which give more and better production. When this occurs, of course, it is not economy to continue using a machine just because it runs well. However, in our plant when parts are worn and where it can be done, we replace with newer developments to keep the machines as up-to-date as possible.

Obviously, an operator will produce more type on a machine which is running smoothly than on one which he must fight more or less all day. In fact, it is easier for him to do a good day's work than not to do it. He feels better at the end of the day, and so does the office. (We are for contented operators—if possible.)

From the records we keep it is possible to anticipate closely our needs in parts, and we find it advantageous to stock them, as against waiting for a breakdown before ordering. We are sure it is economical in the end.

The interesting thing about these schedules is that no two of them are exactly alike. I presume this must be due to the varying conditions under which papers are published and partly to the locality in which the newspaper publishing plant is located. At least, I know from our own experience that it was necessary for Mr. Wraggett to compile a chart which would be suitable to our particular needs.

In newspaper production it is highly important that composing machines be kept in good operating condition for constant output. It is also important that operators be provided with machines kept in such shape that he can deliver error-free proofs, especially at edition times. In newspaper production, too, slugs should be cast as solid as possible so the stereotype department can mold mats properly and to avoid sunken slugs just when the time can least be spared to make substitutions.

In the accompanying schedule worked out by Mr. Wraggett from our experiences in this plant, it will be noticed that considerable attention is paid to those details which make it possible to maintain slugs at uniform height and solidity. Note that metal temperatures are checked weekly.

Many of the annoyances which used to occur before this system was put into use in our composing room have now been entirely eliminated.

The schedule is as follows:

SCHEDULE OF CLEANING AND UPKEEP OF TYPESETTING MACHINES
The Minneapolis Star

YEARLY

Take apart, clean, polish and inspect for wear, entire keyboard and escapement reeds.
Take apart, clean and grease Universal Ejector.
Inspect mold disk locking studs and ejector alignment.

SEMI-ANNUALLY

Check, grease and repair thermostats, pot levers, back knives and motors.

QUARTERLY

Clean, oil and inspect keyboard cams, matrices, magazines and all parts travelled by matrices.

MONTHLY

Inspect clutches, starting and stopping levers.
Drill mouthpiece holes. Clean vents and line up mouthpiece.
Use Vitaflux on mouthpiece and plunger.

WEEKLY

Clean all news molds weekly and the less-used molds every other week.
Inspect each machine for loose and worn parts.
Check assembler lengths.
Check automatic and short-line stops.
Sort news magazines, noting any great shortage of matrices.
General oiling every two weeks. On the faster parts, such as the assembler, distributor, motor and idle pulleys oil weekly, using oil in moderation each time.
Take metal temperatures weekly.

DAILY

Clean plungers and spacebands after each shift.
Wipe off machines, front of molds and clean jaws.

GENERAL

Keep supply parts on hand. Order parts monthly.
Keep all machines as standard as possible so operators do not have to change to suit each machine.
Post list of type faces in magazines and size of slugs on front of each machine for benefit of operators changing from one machine to another.
When cleaning keyboards and matrices, on this schedule, clean all machines; when cleaning pot levers, clean and grease all of them. Applies to entire schedule.
Cleaning, oiling and repairing schedule must be strictly observed.
Keep machine and copy desks, extra magazines, extra sorts as clean as possible.
Keep record of cleaning, also record of equipment on each machine and total for shop; spaceband record and general information record about equipment, supplies, where to purchase, cost, etc.
Keep record of front knives, back knives and locking studs. State when knives have been changed and reground.

New Pressure Lubricator

The Acco-Morrow Pressure Lubricator, recently announced by the American Chain & Cable Company, Inc., supplies lubrication at pressure up to 1000 pounds. Such pressure lubrication flushes out grit and dirt from a machine and at the same time forces oil into bearings.

The "Oilingseal" tip, of compressible composition, makes a pressure-tight contact on the top edge of any common oil hole and practically all sizes and types of cups and oil hole covers in general use. No special fittings are needed. There are no complicated parts. All active parts are made of brass or steel—and machined to precision accuracy. (*Illustration Page 82*)

*Mechanical Superintendent, The Minneapolis *Star*, Minneapolis, Minn

Better PAPERS Quicker

SPELL PRECEDENCE *and* PROFIT

CERTIFIED Mats daily refute the old idea that excellence means sacrifice of speed. With their deep, sensitive, faithful molding, they likewise accelerate press hour action.

● Quicker scorching, plus the assurance of good first casts, explain why many a stereo superintendent sticks to Certifieds as a basic necessity in meeting schedules.

● Where conditions are most exacting, the dependable speed and quality of Certified stereo operation is most appreciated.

Certified DRY MATS

FOR DEPENDABLE STEREOTYPING, RELY ON CERTIFIED MATS, MADE IN THE U. S. A.

CERTIFIED DRY MAT CORPORATION

9 ROCKEFELLER PLAZA, DEPT. M, NEW YORK, N. Y.

Equipment Sales

Reports Many Installations

The latest issue of *Linotype News* reports many installations of Linotypes: Eight new Blue Streaks—three of them Master Model 31s—are producing in the modernized plant of the Louisville *Courier-Journal* and the *Times*, which now operate thirty-five Linotypes. Four new Blue Streaks have been installed by the Houston *Chronicle*, which now operates thirty Linotypes.

Among the many other installations reported are: Three Blue Streak Master Models by the *News-Journal* Company, Wilmington, Del.; three Blue Streak Master Models by the Jersey City Printing Company, Jersey City, N. J., which about a year ago installed ten Blue Streaks; two Blue Streaks by the Davenport *Times;* two Blue Streaks by the Dallas *News and Journal;* two Blue Streaks by the *Capital Times*, Madison, Wis.; two Blue Streak Master Models by the Pacific Manifolding Book Company, Inc., Los Angeles.

Goss Makes Part Shipment

Four units of the Nashville *Banner* and *Tennessean's* new Goss High Speed Unit-Type Double Octuple Press have been shipped from the Chicago factory of The Goss Printing Press Company. On completion of the erection of these four units, the remaining equipment will be shipped. It is expected the entire installation will be completed the early part of July. The press equipment includes two pairs of reversible cylinders, one set of angle bars, eight double roll paper roll frames with automatic tensions.

James F. Siplon, Superintendent of the Grand Haven (Mich.) Daily Tribune *composing room at his desk in the new* Daily Tribune *plant. This is a one-story, brick building with composing, press and mailing departments on the same floor level. Mr. Siplon has been with the* Daily Tribune *for 16 years.*

Hart Ball-Bearing Roller Cores

All of the form and transfer rollers on the recently installed high-speed press units, as well as those which are to be installed in the pressroom of the New York *Daily News*, are or will be equipped with Hart ball-bearing roller cores. In this installation, several hundred Hart cores are in use.

Newspaper Printed on White Satin Cloth

HAVE you ever heard of a newspaper being printed on white satin cloth? Well, the Houston *Chronicle* recently printed 24 copies of a special 24-page section on heavy white satin cloth on its new Goss press. The cost of the cloth for each section was about $6. Approximately 250 yards of satin were required. The idea was to commemorate the completion of a modern plant addition to the *Chronicle* building.

E. Drozda, pressroom foreman, prepared a memorandum for Business Manager J. H. Butler explaining the procedure for printing on the satin cloth. The details are as follows:

"We got enough satin, about 38 in. or 40 in. wide, to give us the desired number of complete 24-page sections.

"This was wound on a 51 in. core that had about 2 in. of paper on it. The 51 in. width was used, so that the satin could be wound on and kept free of wrinkles while winding.

"Then we plated up one unit for a ½-width roll of paper, using only one plate per page. This, of course, meant that we ran 8 pages of the satin, took off those plates, put on 8 more pages, ran the required amount; then put on the last 8.

"When the first 8 plates were on, we ran the ½-width roll through the impressions. Then we rigged up a table in the aisle of the units with two wood brackets acting as bearings for a rod which we put through another 51-in. core. On one end of the rod we put a crank handle. As the press started moving, we wound the paper on the core. When the margins and ink were adjusted, we spliced the satin to the ½-width roll of paper, put the press on slow motion and wound up the satin as it came through the second impression and over the first milled roller.

"When all the satin was run off we trimmed it, cut into 4-page sizes, using a pair of pinking scissors, and arranged these pages in their proper places in the 24-page section.

"We used our regular news black ink, but carried a little more impression on the cylinders than is used on newsprint."

The press equipment in the new plant of The Houston *Chronicle* includes eight Goss High Speed Anti-Friction Units and two pairs of folders.

Picture shows several styles Acco-Morrow Pressure Lubricators. *Article on page 80.*

Safeguarding Finished Metal Surfaces

For protecting highly-polished, painted, plated or duco-finished metal surfaces of new or idle printing machinery from scratches, dulling or tarnishing during storage, handling, fabrication, transit, or exposure to weather, The Haydn F. White Company offers a liquid known as "Protex." This is brushed or sprayed on the surface to be protected and is then preferably covered with kraft paper. The liquid quickly sets to a moisture-proof, coherent, tough skin which is opaque to light and a good insulator of low-voltage current. The skin readily peels off with the paper, or may be easily pulled off if the paper method is not applicable; leaving the metal in its original polished finish. Sprayed or brushed on parts in storage, it prevents rust or corrosion; and it may be used to protect unused equipment till needed. Special types, such as acid or alkali resistant forms, may be supplied to fit individual needs.

New plant of Grand Haven (Mich.) Daily Tribune, *which has served its community for 52 years. Formal opening of the new building occurred March 12. The building is of brick construction covering an area of 66 ft. by 96 ft. Newsprint storage and a job department in the rear.*

Views showing some of the new Thompson equipment in composing room of Cleveland Plain Dealer

If your composing room costs are too high consult us about equipment. Estimates cheerfully given without obligation

Thompson Cabinet Company

LUDINGTON, MICH.

Co-ordination

(*Continued from Page 44*)

are continually experimenting. There seems to be difference of opinion regarding inks and that problem is amplified by the variation in quality of print paper. Speed of presses is a debatable problem. Offset and show-through continue to be a troublesome factor. So the pressman, like the others, has his problems. Conditions in other departments enter into the picture.

I do not know of any single newspaper or group of newspapers that is scientifically making a study of all the branches of mechanical operation. Many men in the different departments are going as far into the problem as their ability and equipment permits, by applying the trial and error process. They need, in addition to their practical knowledge, the advice and assistance of technical men. The practical should be co-ordinated with the theoretical and scientific approach to the problems. Certainly the newspaper business is big enough and has enough at stake to make worthwhile much intensive co-ordinated research that has not yet been undertaken.

There is no perfect mechanical department and there is no perfect mechanical workman. That should not discourage us in our efforts to come as near perfection as we can. Little progress will be made if each department head assumed the attitude that all the causes for defective printing are in the other fellows' departments and that our department is OK. We know many times that is not true. If each insists it's the other fellow, then the progress to better mechanical operation is going to be very slow. Even though the department head may feel he is perfect (and he isn't) he certainly recognizes the fact that his equipment is not perfect. That perfect machine has never been made and there is not such a machine in any of the mechanical departments. If we had it, we would not have repair men and the manufacturer of the equipment would not have service men. There is always the undisputable fact that our ills may be due to our machinery getting out of order. We know all printing equipment needs very close attention.

When there are rough spots in the path of production let's all assume that the rough spot is in our department, then get busy and try to correct whatever may contribute to it. When we do that beneficial results will be secured much faster and they will be more permanent. It's the coordinators job to bring about that feeling of responsibility on the part of each department head.

The art department and the photographic department are not commonly called mechanical departments, but certainly there is need for much closer coordination of these departments with the mechanical departments. That is especially true in the development of better color printing.

While we are discussing the advantages of coordination in the mechanical departments, it might be in order to say that many newspapers need more coordination between the mechanical departments as a unit and the editorial and sales department. Let's make the sales and editorial departments more mechanical minded. There is also need for making the mechanical departments more sales minded and appreciative of the problems in the news department. Much good will result if we all know a little more about the other departments of the paper.

Some newspapers encourage suggestions from their employes and give prizes for those accepted. I believe in that.

Some of the larger papers have interesting house organs which are a means of keeping the employes informed of the activities and objectives of all departments.

We should make it our business to keep the advertising and news departments advised regarding the problems of production. Most manufacturing concerns bring new salesmen into their factories and give them sort of a short course in the manufacture of the product they are to sell, so that they will know what they are selling.

I am sure that the kind of equipment and supplies used has something to do with the appearance of the paper. I am also just as sure that, regardless of the kind of equipment or the amount of it, we have to think about our production problems and we have to have the full cooperation of the employees of each department. Proper equipment will contribute to a good job if we supply the thing the manufacturer has been unable to make—brains.

I know of instances where large sums of money have been spent for equipment and after it had been bought and installed no one seemed to know, or did not care, how it was operated. It had been bought without any apparent thought of how it would fit into the general scheme of operation. Maybe the one authorized to buy it in some instances did not know. I don't want to give the impression that I am opposed to the purchase of modern equipment. I am very much in favor of it, but I do think we should fully study our problems before we start a buying spree. I believe that equipment that may work successfully in one plant, to meet a certain condition, may not be successful in

Newsman Will Go To Bali To See Cremation
'Me Sussarka Mans'
"I'm so excited!"
Hotel Whitcomb
$444.
SAN FRANCISCO to EUROPE
Empress of Britain
Canadian Pacific
AHEAD OF THE REST!
CALL FOR
Calvert
WHISKIES
It's 5 miles as the crow flies . . .
and 7 miles by the road map . . .
but 10 miles by STOP and GO
To Your Engine, ONE mile of stop-and-go driving may be TWO miles or more
EACH TIME YOU START, you shift through three gears. In "low," your engine makes about twelve revolutions for one turn of your wheels. In "second," it makes about eight. In "high," it makes about four.
JUST AS SIMPLE AS THAT. You drive a mile, but how far your engine runs depends on how many times you stop and start, how much of the distance is in low and second gears.
Shell engineers found that getting away from a traffic stop can waste enough "undigested" gasoline to carry you one-third of a mile.
To cut this waste and its cost, they found a way to rearrange the chemical structure of gasoline, making every drop of fuel usable to your motor at all speeds . . . under all driving conditions.
• • •
You can save on the cost of your stop-and-go driving by the regular use of Super-Shell gasoline. There's a Shell dealer in your neighborhood
SUPER-SHELL
SHELL
SAVES ON STOP AND GO

AT LEFT:

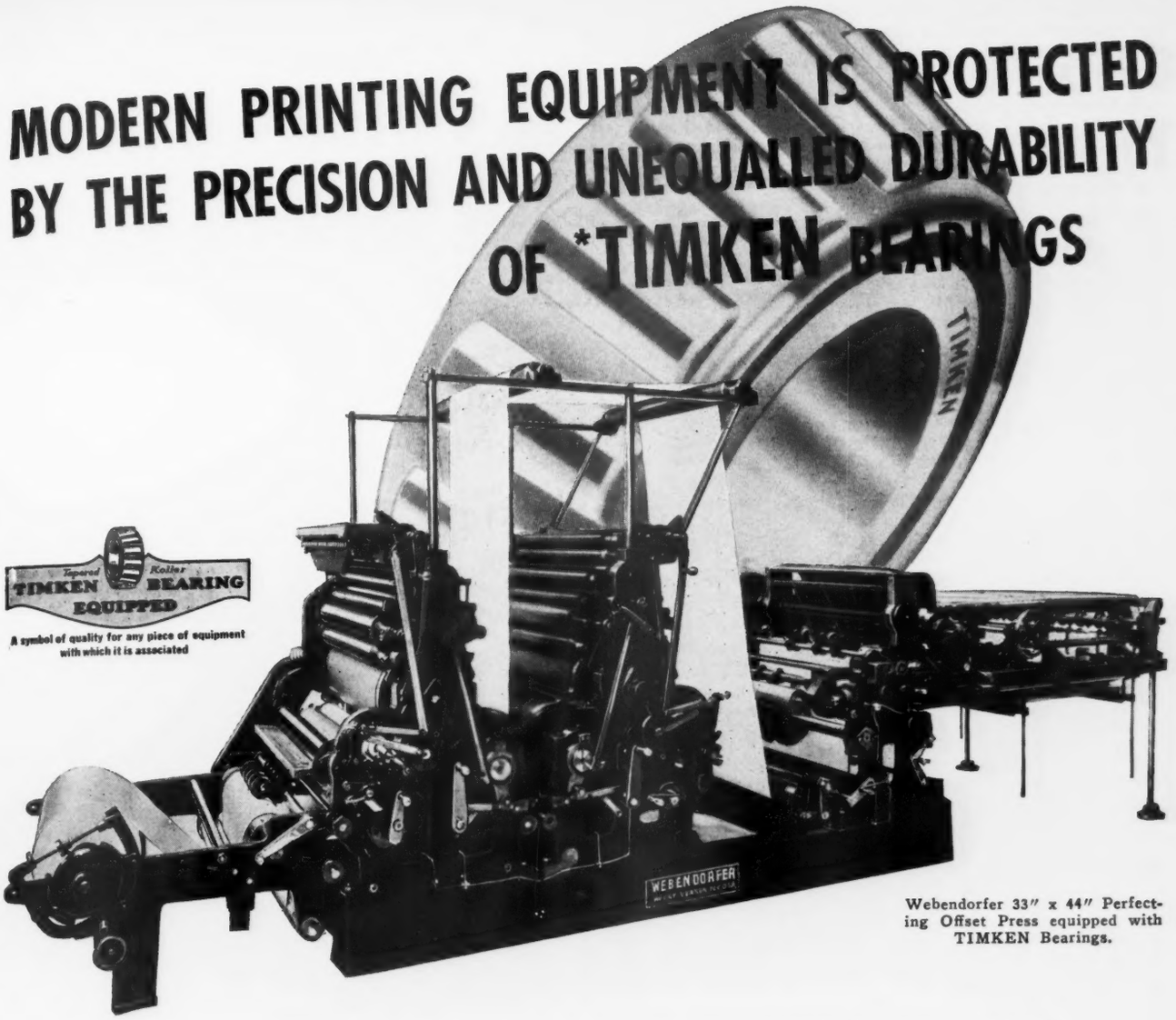
Miniature reproduction of full-page bleed-page color advertisement appearing recently in the Sacramento Bee. *The regular editorial portion of the page was printed in black. Color used in the Shell advertisement was red and yellow with black reading matter. R. H. Markland,* Bee *pressroom foreman and his assistants, are to be complimented upon the presswork which is excellent.*

R. H. Markland, Pressroom Foreman, in commenting upon the production of the Shell page, said that the color and black pages of the Shell advertisement were made up in a standard size chase and cast in the usual way. All color plates are stereotyped.

The first and second impression black were printed first, the yellow and red last. Normal color leads were used.

By holding the web back with the compensator after the black was printed the black was thrown out of normal register sufficiently to print the colors on the top and bottom margins. After the last color was printed, the compensator between the last impression and the folder knife was let in to allow cut-off to come at the normal position.

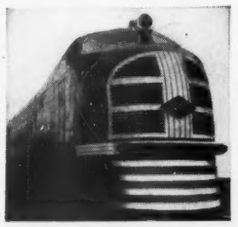
MODERN PRINTING EQUIPMENT IS PROTECTED BY THE PRECISION AND UNEQUALLED DURABILITY OF *TIMKEN BEARINGS



Webendorfer 33″ x 44″ Perfecting Offset Press equipped with TIMKEN Bearings.

Tapered Roller
TIMKEN BEARING
EQUIPPED

A symbol of quality for any piece of equipment with which it is associated



THE GREEN DIAMOND, Illinois Central Railroad, Speeds Smoothly On TIMKEN Roller Bearings.

GLIDE—as you ride a Timken Bearing Equipped train

Wherever cylinders turn, in printing presses of all types and sizes—letterpress or offset—TIMKEN Tapered Roller Bearings have a strong influence on speed, quality and cost.

Their application in modern equipment ranges from huge rotary web presses capable of producing 60,000 metropolitan newspapers per hour, down to the smallest flat bed cylinder presses used in commercial print shops.

They hold plate and impression cylinders in alignment in the face of the heaviest radial and severest thrust loads that may be brought to bear on them; they eliminate friction and reduce wear to the vanishing point; they take the labor out of lubrication; and slash maintenance costs mercilessly.

More and more printers are looking for this modern performance assurance in the new equipment they buy. Does your equipment have it?

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

Manufacturers of TIMKEN Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; TIMKEN Alloy Steels and Carbon and Alloy Seamless Tubing; TIMKEN Rock Bits; and TIMKEN Fuel Injection Equipment.

* TRADE-MARK REG. U. S. PAT. OFF.

TIMKEN
TAPERED ROLLER BEARINGS

another. Our problem is to determine what we need to meet the situation that confronts us in our particular plant and we should know what we are going to do with the new equipment when it arrives. Some seemingly do their experimenting and considerable guessing after it arrives because no coordinated program had been definitely worked out. Don't guess whether new equipment will do this or that.

Many newspapers do very little if any accurate cost finding in the different mechanical departments. I will just say there is an opportunity to learn much in each of the departments if accurate records are kept that will make possible the comparison of operating costs from time to time. Those records are of much value to the person who is responsible for the coordination of the departments.

There is nothing new about the auto-call telephone systems that are installed in many business and manufacturing plants. A number of newspapers also have them. A number do not. We have it in our plant at Akron and I am sure that it saves much time in contacting people throughout the building and is an efficient piece of equipment in a newspaper plant.

I do not favor hard-boiled methods because I don't believe it is right and I don't believe it gets efficiency. There are fewer of those kind of fellows at the head of departments than there used to be. Neither do I believe that one should bend over backward to the point where one is taken advantage of. It seems to me that most men can be dealt with better if they are talked to fairly and intelligently. It is a bad practice to keep continually pounding men on the back because you cannot always be present to do the pounding and after a while it becomes so commonplace that it is ineffective and encourages opposition that is hard to overcome. If you do not do that too freely you will be respected much more. If it becomes necessary to reprimand someone in your department it will have much more effect upon the person reprimanded and others in the department than it would if it was a daily routine. I don't mean to say the same rule can be applied to all people. To most it can. However, there is the occasional fellow that has to be put in his place regularly and he is soon discovered. I think you all know the remedy to apply to that fellow.

We have made great progress in the past ten or fifteen years. One only has to look back at the files of your paper to appreciate that. In another ten years we will look back at the newspaper of today and see probably even more improvement.

Intensive laboratory research and competent technicians can and I believe will, contribute much to this newspaper of tomorrow.

With the demand for a better job of newspaper-making we are going to need closer coordination of the mechanical branches engaged in printing newspapers. The ship needs a pilot and certainly newspaper making, with its many ramifications, needs good piloting more than do simple processes of manufacture. It's surprising how well many have survived without the mechanical pilot.

Split Back Gauge Time Saver on Trimming Jobs

WHEN a sizable job of three-side trimming comes along it can be handled rapidly by using a split back gauge, the one on the left for the first end cut, the center gauge for the side trim and the one on the right for the second end trim. If the paper cutting machine is not fitted with a split gauge, one may be ordered from the manufacturer or made for temporary use by securing form furniture as needed to obtain the three gauges to the ordinary back gauge. In order to operate at highest speed, the paper cutter operator should have an assistant on a big trimming job, using a split gauge. Let us suppose 25,000 booklets are to be trimmed on three edges. The booklets should be stacked in piles of convenient height within the most convenient reach for the operator and his assistant and in lots of twenty-five or fifty, whichever is more convenient, these lots alternately with folded and opposite edge out so that a pair of lots will be level. The operator places a pair of lots with top edge back against the left gauge, and another pair of lots (not reversed) for side trim against the center gauge and makes the first cut, trimming one end on the left gauge pile and the side trim on the center gauge pile and on subsequent descents of the knife he will make three cuts with the aid of his assistant. After the first cut, using only the left and center gauges, the operator moves the trimmed pile in front of the left gauge against the right gauge but reversed endwise, moves the lot against the center gauge sidewise against the left gauge endwise and places a fresh lot sidewise against the center gauge. The second descent of the knife trims one edge on each of three lots. The assistant removes the lot in front of the right gauge from the cutting machine table and puts it in a convenient position for shipping or mailing department, generally in a rack on a truck, and places a fresh lot of booklets on the cutter table which the operator places against the gague and so on. After the operator and his assistant get the piles of booklets in convenient position on the table, within easy reach without wasting steps and the truck similarly placed, the pair of workers soon work together without any wasted motions and can do the job in the shortest possible time, a very considerable saving compared to trimming one edge of one booklet at a time.

IMPORTANT ANNOUNCEMENT!

• • •

Eastern Newspaper Supply now offers a complete line of Pressroom and Composing Room supplies, in addition to its already "accepted" line of Stereotype supplies.

• • •

A new catalog, completely illustrated, covering all of these items in detail is now ready for distribution and is yours for the asking. And this is important—many of these items are NEW, and not hitherto available to the printing trades—*Send for your copy NOW!*

P.S. Will see you at the "Mechanical Conference."

• • •

EASTERN NEWSPAPER SUPPLY

9603 NORTHERN BLVD. **CORONA, N. Y.**

GREETINGS

TO THE A.N.P.A.

AND BEST WISHES FOR AN OUTSTANDING CONVENTION

CANADA PRINTING INK CO., Limited

15 DUNCAN STREET TORONTO

FOR MORE THAN FIFTY YEARS
CANADA'S LEADING PRINTING INK MAKERS

EDES SUPERFINE QUALITY ZINC

EDES IS READY

Immediately following any major disaster there is a sharp rise in demand for zinc. Edes—with plant capacity to supply all the photo-engraving needs of the world—is ready in these emergencies. Edes customers expect and get zinc of unvarying uniformity in every shipment regardless of the demand.

USE EDES HARD MATRIX ZINC FOR MATRIX WORK

THE EDES MANUFACTURING CO., PLYMOUTH, MASS., U. S. A.

HEADQUARTERS FOR SUPERIOR BRAND COPPER AND PLYMOUTH BRAND BRASS

SALES REPRESENTATIVES

Chemco Photoproducts Co.....25-27 S. Market St., Chicago
Chemco Photoproducts Co.....Queen and Crescent Building, New Orleans, La.
Allan B. Croke Co.....163 Oliver Street, Boston
G. C. Dorn Supply Co.....125 East Pearl Street, Cincinnati
Mid-West Photo-Engravers Supply Co..514 North Third St., St. Louis
E. H. Walker Supply Company..1315 14th St., N.W., Washington, D. C.
Selby Mohr.....883 Mission Street, San Francisco
Metzger Photo Supply Co.....1091 South Main Street, Akron
C. S. Illingworth.....49 Springville Ave., Buffalo, N. Y.
Thompson-Hayward Chemical Co.....909 2nd St. So., Minneapolis
Thompson-Hayward Chemical Co.....2228 Blake Street, Denver

Registering Mat Shear

A DEVICE which will permit back-to-back head-rule register of page plates printed on the opposite sides of the same sheet has been devised by Leslie Griner, Mechanical Superintendent of the Youngstown (O.) *Vindicator*. Through the medium of a register line scribed in a frisket hinged to a conventional Goss mat shear, the stereotyper can make his first cut on a molded mat.

The head-rule edge of the mat is placed under the frisket. The molded head rule is shifted into exact alignment with the scribed register line on the frisket plate as shown in the accompanying illustration. After aligning the head-rule with the register line the first cut with the shear is made.

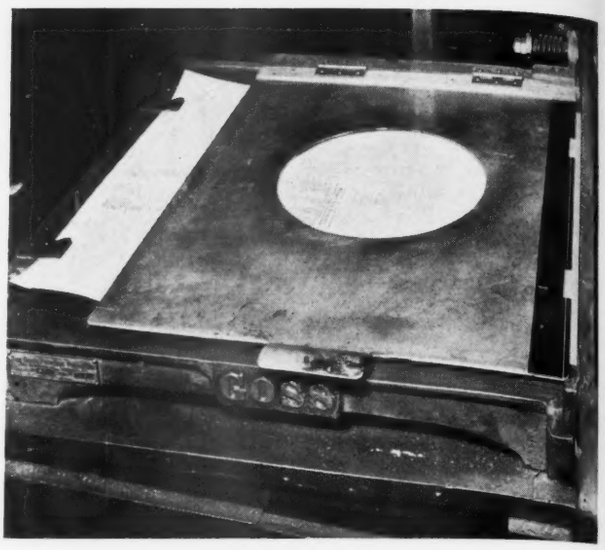
The mat is now turned end for end with the trimmed head-rule edge of the mat placed against the two register guides at the left side of the shear and the bottom edge of the mat is trimmed.

When trimming the sides of the molded page in the mat, the scribed registration line in the frisket plate is used to obtain alignment before trimming.

The frisket is made from photoengraver's zinc plate. Two conventional butt hinges are used to fasten it to the back of the shear bed. A 12-in. round hole is cut in the center of the frisket plate.

In order to have a means for registering the head of the mat on the original trim, as has been mentioned above, a scribed register line is placed on the right side and about ½ in. from the edge of the frisket. Two open sections are cut in the registration edge of the frisket plate. To facilitate seeing the relationship of the head-rule and the scribed line the plate is painted black while the scribed line is filled in with white lead.

The two steel register fingers at the left side extend inwardly approx. 2 in. from the shear base and each is provided with an upwardly curved lip to facilitate placing the mat to bring the foot of the page the proper distance from the head rule for proper trim.



View of Goss standard mat shear in plant of the Youngstown (O.) *Vindicator*, to which has been applied a mat trim-register device so that head rules on pages on opposite sides of the sheet will register automatically when the plates have been put on the press.

FIND OUT HOW

YOU CAN SAVE MONEY
BY REFINISHING YOUR OWN ROLLERS

● Have you checked up lately to see how much you can save by refinishing your own rollers? Pressroom superintendents in leading newspapers now using the Cecil Series "J" special machine shown below or the Series "AA" combined lathe and roller finishing equipment tell us they have lowered departmental costs and have saved enough to pay for these accurate, economical and easy to operate machines.

Investigate and learn of the savings you can make by refinishing rollers in your plant with Cecil equipment. Get complete facts and figures on what other newspapers are doing with this equipment. Compare their costs with the price you are now paying for having your rollers ground elsewhere. With these figures you can quickly determine the true facts. Write today.

DUST-LESS EQUIPMENT COMPANY 4021 19th St., N. E., Washington, D. C.

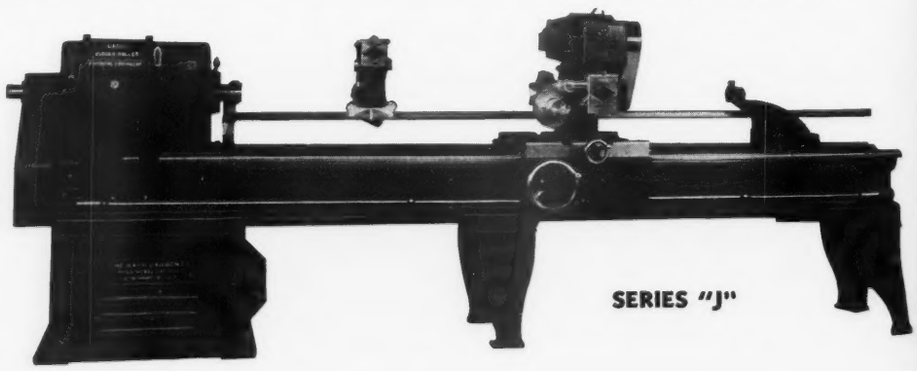
REPRESENTED BY

Goss Printing Press Co.
Chicago, Ill.

The Rahn-Larmon Co.
Cincinnati, Ohio.

R. Hoe & Co.
New York, N. Y.

Walter Scott & Co.
Plainfield, N. J.



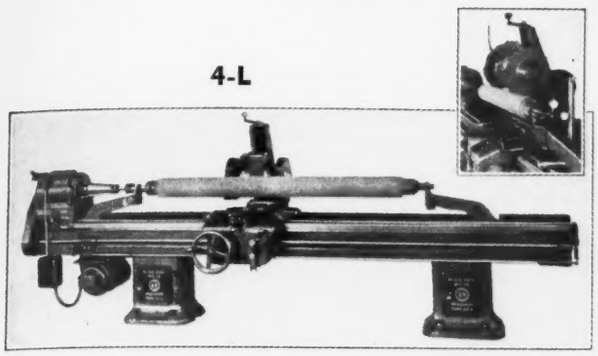
SERIES "J"

CECIL RUBBER ROLLER FINISHING MACHINES

Use BLACK ROCK EQUIPMENT

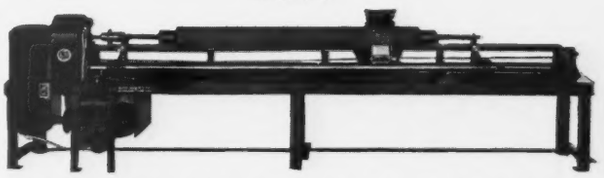
To Accurately Grind and Polish Rollers

4-L



This 4-L Grinder is used by many leading newspapers handling rollers specified for leading presses, including gravure and lithograph rollers. Roller ground at any point from top to back permitting user to grind straight or with crown due to natural sag. Standard attachments for ball bearing rollers. Capacity of 3 to 12-inch diameter and a length from 1 to 9 feet between roller bearings. Consumes 4 h.p. Occupies a floor space of 4 feet by 13 feet 8 inches. Maximum height, 5 feet 4 inches. Sturdily built—does accurate clean-cut work.

4-R-M



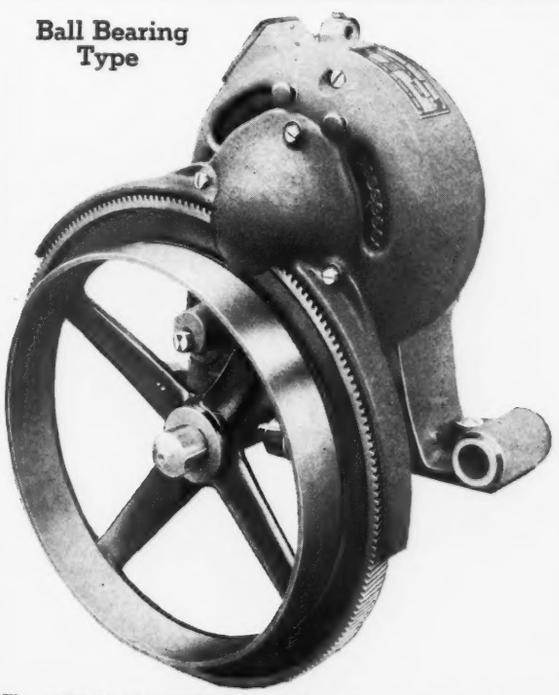
This 4-R-M Roller Polisher shown above is designed to rapidly and accurately polish rubber rollers coming within specifications given by leading pressmakers. It eliminates laborious, inaccurate hand polishing and maintains dimensions relative to those produced on our grinder. Capacity, 2 to 12 inches. Length between bearings from 0 to 9'8". Consumes 2 h.p. Floor space 2'2"x13'6". Maximum height, 4 feet 4 inches.

That the equipment as shown above is of the highest standard for grinding and polishing printers' rubber rollers is borne out by the fact that practically all manufacturers of rubber rollers use this equipment in their own plants where the highest standards must be maintained.

This equipment may be seen in Toronto during the Mechanical Conference.
Mr. G. L. Hammond will be registered at the Royal York Hotel.

• BLACK ROCK MANUFACTURING CO. •
177 OSBORN STREET **BRIDGEPORT, CONN.**

Ball Bearing Type



The CUSHMAN OFFSET MOTOR will operate your typesetting machine at its maximum capacity with less operating cost than any other typesetting machine motor. We were the pioneers in the direct drive and our 40 years experience are all incorporated in the Cushman Offset.

CUSHMAN ELECTRIC CO.
65 S. Main St. Concord, N. H.

MEMO TO Mechanical Superintendent

SUBJECT **FLEX DRY MATS**

Maybe you are still using ordinary dry mats on the principle of "leaving well enough alone". But so many men in your position have swung...and clung...to FLEX dry mats for better printing plates, that we urge you to reopen the mat question long enough to try these better mats. Incidentally, a trial of FLEX dry mats will cost you nothing. When you send for free samples, please specify gauge, shrink, number of casts per mat, and the type of casting equipment you are using.

FLEXIDEAL DRY MAT COMPANY
21 WEST STREET NEW YORK

Pre-Makeready

(*Continued from Page 32*)

The blocked and underlaid plate is placed (not locked up) on the bed of the press, which may be inked with the ink to be used for the run or this ink may be applied with a brayer. The plate should be inked and proofed in the same direction as on the run, otherwise first from top to bottom and then side to side. Care in quantity of ink is used—about as much as during makeready. A proof is now pulled to learn whether the plate is ready to be sent to stoneman or pressroom or whether further underlaying or perhaps an interlay is necessary. If plate prints as it should, any necessary proofs are pulled, including one or two for the records of the pre-makeready department and finally, before disposing of the plate, the impressions needed for mechanical overlays may be pulled after inking up the plate only in overlay ink with a brayer.

Type and Rule

Gauges are available for testing the height of foundry type, machine-cast type and slugs, which are accurate and more convenient than micrometer calipers. Proofs are first pulled on the test press. Defective foundry type is weeded out and errors in machine-cast matter are corrected in the mats and the machines. Or if the metal is at fault, which quickly shows in the larger sizes of headings, the metal or the casting-mechanism is examined. With frequent and regular inspection, the typesetting equipment may quickly be brought up to standard. The saving in makeready and decreased running time of the production press due to workups, pullouts, smashups, slurs, etc., soon proves pre-makeready a good investment.

Rules should vary in height according to the width of the line on the face of the rule. Thus hairline face may be 0.915 in. and so on up. Foundry rules may be shaved down and the molds corrected for machine-cast rule, remembering that brass and steel rule yield less under the squeeze of impression.

Electrotypes

Forms to be electrotyped should be proofed on the test press since it is obvious that a duplicate can be no better than the original. After all errors, bad letters, etc., have been removed with the help of the test press, the pages should be locked singly in square steel chases with steel type-high bearers. Wax molds should be made of the type parts of each page from which extra-heavy copper shells may be made and backed up with lead to same thickness as the halftones, if any in the page. Space is provided for the halftone so that it may be dropped in and soldered. This pattern plate is tested on the test press and any defects corrected, afterwards being used to make lead molds. For a good electro of the lead-mold nickeltype sort, the plate should be left in both copper and nickel baths twice as long as for regular ordinary duplicates. This cuts down the finishing time and the finished plate should not caliper more than one-half thousandth inch (0.0005 in.) out.

Other Makeready Helps

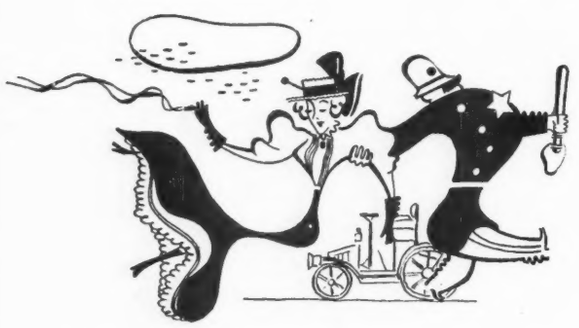
Printers' position sheets, faint-line ruled, and line-up and register tables are used to decrease the standing time of the production press by sending forms to the pressroom so that very few moves are needed on the bed of the press.

Paper and ink may be tested on the test press, not only to determine the affinity of ink and paper but also defects in the sheets of paper, side for side, and in the individual sheet.

What Makeready Remains to Be Done?

The last form on the press is cleaned and sent to the composing room. Pre-makeready requires that the next form be near the press and ready to go on the bed of the press after it has been cleaned and wiped with an oily rag. Packing sheets of correct size and thickness and creased for the gripper edge should be at hand and manilas to go around the reel rods are tapered off to yield a drumhead packing and drawsheet, when wound up tight with ratchet.

The back of the new form is cleaned and placed on the bed. The chase is clamped and the quoins unlocked. The next operation of gauging and underlaying plates has been done in pre-makeready. Next the form is planed down and locked. Any surplus ink is washed off. The packing is changed, guides set and typographic or position OK obtained. First trial impression sheet is printed and stabbed, marked out for overlay and spotted up. The point system of make-ready is best. The packing is raised and the first overlay is pasted on. The second trial impression is pulled and stabbed, marked out, spotted up and pasted on. Any remaining blemishes are next corrected. The fountain is set, automatic feeder set and loaded, delivery is set and a few sheets run to get color when a sheet should be submitted for final



DISORDERLY CONDUCT 1905

We turn with a smile that hides a longing to the 1900's, when the first lady was arrested for smoking the first cigarette in the first auto (almost). New ways followed thick and fast in those days. One new way that has meant much to printers ever since was the Kimble Idea of a *specialized motor* for printing equipment. From that day to this Kimble has specialized on motors for Graphic Arts Equipment. Ask any leading printer what the Kimble Idea has meant to him in his search for profits and prestige. KIMBLE ELECTRIC COMPANY, 2011 W. Hastings Street, Chicago, Ill.

KIMBLE MOTORS

Distributed by AMERICAN TYPE FOUNDERS

Branches and Sales Agents in Twenty-Five Cities

Technical Books

HANDBOOK *for* PRESSMEN

By Fred W. Hoch

Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts. $3.00 per copy, cash with order.

The PRACTICE *of* PRESSWORK

By Craig R. Spicher

We offer copies to our readers at the special price of $4.00 per copy, cash with order. No printer should be without a copy (9000 copies printed.)

MANUAL *of* STEREOTYPING

By Joseph Goggin

This 256-page book conveys latest technical information and manipulating procedure. Written by a practical stereotyper. Price $5.00, cash with order.

SILK SCREEN METHODS *of* REPRODUCTION

By Bert Zahn

This illustrated, cloth-bound book describes in complete detail the equipment, materials and technique required. Price, $3.00 per copy, cash with order.

Send All Orders With Remittance to

Printing EQUIPMENT *Engineer*

1276 W. Third Street Cleveland, Ohio

The . . . AUTOMATRIX

DIRECT PRESSURE MATRIX MOLDING PRESS

Specifications

Capacity	800 Tons
Opening (maximum)	2½"
Platen Size	30" x 24"
Operating Pressure (maximum) Pounds per square inch	3100
Sliding Plates	33½" x 27½"
Sliding Plates to Floor	34"
Overall Length	6′ 7"
Overall Width	5′ 3"
Overall Height	4′ 7"
Actual Base Area	29 Sq. Ft.
Motor Capacity	7½ H. P.
Motor Speed	1200 R.P.M.
Approximate Total Weight	20,000 lbs.

WRITE FOR BULLETIN C-36

THE WATSON-STILLMAN CO.
ROSELLE, NEW JERSEY

The LONG and SHORT of it!

Crisp, clean, contrasty halftones . . . or . . . muddy, flat, gray reproductions. That, in brief, is the difference between good newspaper reproduction and bad.

To get perfect tonal contrast—to hold the darkest shadows and the whitest highlights—to retain in the plate every whisper of variation present in the original copy—do as hundreds of progressive newspaper plants do—use Wood Dry Mats.

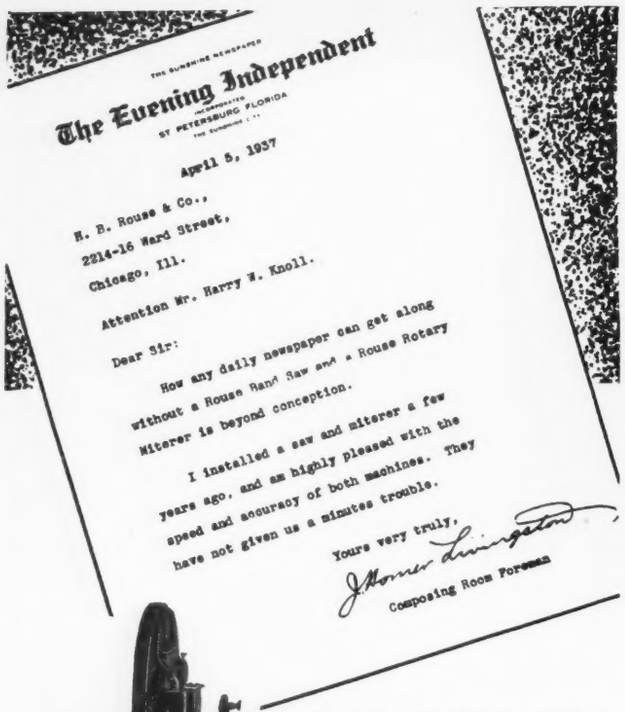
The absolute fidelity with which Wood Dry Mats hold tones and details which ordinarily are lost is a characteristic built into the mat . . . a combination of perfect materials, perfected processes, and unequaled experience.

Does it make a difference? Ask any mechanical man who uses Wood Dry Mats now. Or write for a sample package—try them—and see the contrast between what you're getting now and what you will get with Wood!

WOOD DRY MATS

WOOD FLONG

CORPORATION
HOOSICK FALLS
NEW YORK



The Evening Independent
ST. PETERSBURG, FLORIDA

April 5, 1937

H. B. Rouse & Co.,
2214-16 Ward Street,
Chicago, Ill.

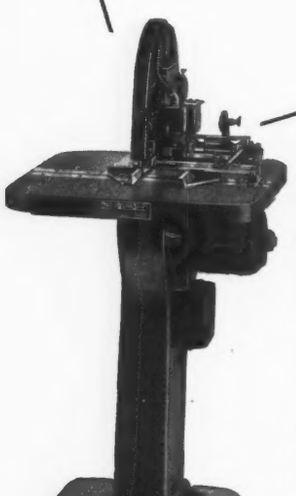
Attention Mr. Harry W. Knoll.

Dear Sir:

How any daily newspaper can get along without a Rouse Band Saw and a Rouse Rotary Miterer is beyond conception.

I installed a saw and miterer a few years ago, and am highly pleased with the speed and accuracy of both machines. They have not given us a minutes trouble.

Yours very truly,
J. Homer Livingston
Composing Room Foreman



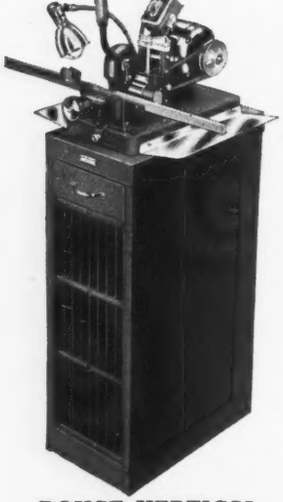
NO. 2 ROUSE BAND SAW

MINUTES FOR HOURS . . .

A few minutes of work on the ROUSE BAND SAW equals that of hours on ordinary composing room saws.

The ROUSE BAND SAW will cut a full galley of slugs to variable measures in 35 seconds. No. 2 Model cuts 8 inches of slugs in 17 seconds.

Tedious, time consuming ads by regular sawing methods, are mere routine when the ROUSE BAND SAW is used. Send for illustrated circular and prices.



ROUSE VERTICAL ROTARY MITERER

1000 MITERS AN HOUR . . .

The ROUSE VERTICAL ROTARY MITERER affords the fastest method of making miters direct from strip material without preliminary cutting to length.

An illustrated circular explains the operation of the ROUSE VERTICAL ROTARY MITERER, and tells of the patented feature which makes it possible to cut 1000 miters an hour, whether the pieces are 6 points or 144 picas long. Every executive and compositor should have this circular. SEND FOR IT NOW. There is no obligation.

H. B. ROUSE & COMPANY
2216 North Wayne Avenue, Chicago, Illinois

STRIP MATERIAL . . .
within easy reach

No. 13295-X Steel Strip Material Storage Cabinet Floor Space, 42½ x 25½ inches

● To keep Strip-Material within easy reach, store it in the HAMILTON No. 13295-X Strip Material Storage Cabinet. It holds a big supply of 24 inch Strip Material. There are 17 bins 5¼″ high and one large bin 17¼″ high. All bins are 9¼″ wide and 23¾″ deep. Each bin has a label holder. The cabinet is 42½″ high and 25½″ deep. The height is 36″ . . . just right for a Lead Cutter or Mitering Machine.

● To meet the heavy demand for spacing material in modern machine-equipped composing rooms . . . keep a large supply available in these specially designed HAMILTON Storage Cabinets. It pays dividends! Send in the coupon for full information.

FOR RULE, BORDERS, LEADS OR SLUGS

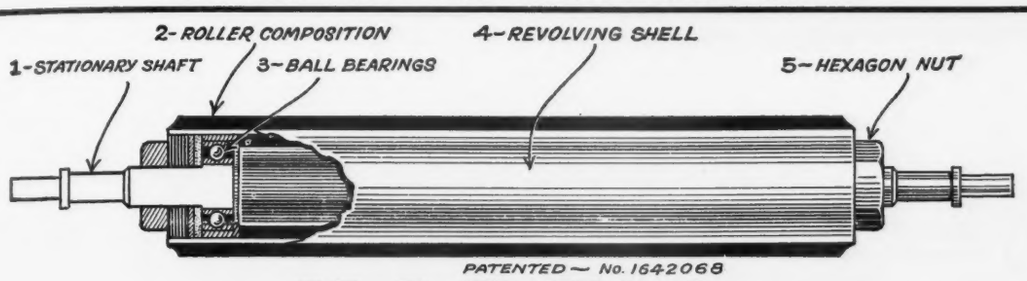
No. 13296 Steel Strip Material Storage Cabinet arranged for Rouse Vertical Rotary Miterer. Floor Space, 42½ x 25½ inches

● This cabinet . . . No. 13296 . . . has 53 compartments for type high material, leads, and slugs. Each compartment is 1″ wide, 14¼″ high, and 23¾″ deep. Division strips of Masonite prevent damage to face of material. A hole in the top, over which a Rouse Vertical Rotary Miterer may be mounted, connects to a drawer which catches the chips. The widest gauge on the machine will not extend beyond the cabinet top which is 42½″ wide, 25½″ deep, and 36″ high.

Write for further information.

HAMILTON MFG. CO., TWO RIVERS, WIS.

THE CORE WITH THE STATIONARY SHAFT



HART'S
BALL-BEARING ROLLER CORE
PATENTED

ADVANTAGES AND SAVING

1. SOCKETS & CORE ENDS—Can never become worn as the shaft remains stationary. Saving 100%.
2. ROLLER COMPOSITION—More than half of the friction as well as heating up of the core ends eliminated, reduces wear and tear on composition. Saving 20% to 40%.
3. POWER—Three-quarters of the revolving weight being stationary, causes less friction and reduces power. Saving 30% to 40%.
4. OIL—Constant Oiling Unnecessary. Lubrication can be taken care of by your roller maker if necessary. Saving 50%.
5. WASH UP—Washing up can be done in half the time owing to the roller revolving so easily without removing from the press. Saving 40%.
6. CUTS & PLATES—Owing to less weight and friction, the wear and tear on cuts and plates naturally is reduced. Saving 10%.

Send for circular and prices without obligation.

WILLIAM C. HART COMPANY, INC.
PRINTERS' ROLLERS

137 GREENE ST., NEW YORK CITY **259 EXCHANGE ST., ROCHESTER, N. Y.**

Liscensed manufacturing agents are The Goss Printing Press Co., and R. Hoe & Co

OK. Strips of tissue and folio cut in various widths are a time-saver in patching up overlays. The strip is placed over the paste on the marked-out sheet, held down with the thumb of the left hand and torn off with the right, saving much time cutting out with the overlay knife. Rubber makeready blankets or packing are economical on certain work and a sheet of newsprint next below the drawsheet helps on rush jobs.

Of course, the big question is: How much time is saved on the production press by thorough pre-makeready? The saving varies with different forms and papers but, generally speaking, the production press should not be standing more than two or three hours per new form and some forms can be started more quickly. When you recall the hours spent on hodge-podge forms before the days of pre-makeready, the saving is notable.

Compressed Air Provided by Press Plungers

The Beregh Sprayer prevents offsetting, sticking, smudging and slipsheeting. The spray compression is formed by the action of the press plungers. On presses not so equipped, air pressure may be secured by the addition of a conventional compressor. The timing of the spray is controlled by the trip of the press. No electrical connections are used with the Beregh Sprayer.

The metal parts are chromium plated. The nozzle may be adjusted for direction or amount of fluid needed for the particular subject being printed.

Further information may be obtained from Beregh Manufacturing Company, Inc., or in care of *Printing* EQUIPMENT *Engineer.*

P-Double-E File No. 5EE.

Naz-Dar Process Handbook

Naz-Dar Process Handbook and Price List illustrates and describes silk screen process paints, equipment and supplies. A discussion about the process and cost keeping is printed in a section in the back of the handbook.

P-Double-E File No. 8H.

Monitor at S.F. Fair

The Christian Science Monitor will erect its own building on Treasure Island for the 1939 Golden Gate International Exposition, according to Floyd C. Shank, chairman for Christian Science activities at the Fair. The complete mechanics in the production of The Christian Science Monitor will be portrayed by graphic exhibits in the one-story "L" shaped building, which will be ultra-modern in design with a transparent glass facade, fronted by a pair of 70-foot pylons. A small garden will be built in the rear of the "L." A feature of the structure will be an 8 ft. by 10 ft. cinema screen on the outside front of the pylons' base on which will be flashed hourly news bulletins and slides of enlarged feature pages and motion pictures of *The Christian Science Monitor* plant at work.

General Electric in 1937

At a meeting of the Board of Directors of General Electric Company on March 4, preliminary results for 1937 were presented showing sales billed amounting to $349,740,000, compared with $268,545,000 for 1936, an increase of 30%. Net income amounted to $63,547,000, equivalent to $2.21 a share of common stock. Dividends totaling $2.20 a share were declared and paid in 1937. On December 31, 1937, there were 201,219 stockholders.

The amount earned under the General Profit Sharing Plan for 1937 was $5,761,000. There will also be extra compensation under the established plans for employees in executive and supervisory positions.

Average number of empolyees during 1937 was 75,212. Total earnings for these employees amounted to $145,358,000. Average annual earnings per employe were $1933.

Cost of Living Adjustment, Life Insurance, Home Ownership, Savings, Pension and Life Retirement and Relief and Loan Association Plans are reported upon in the GE preliminary report.

One of the interesting features of the report is as follows:

> "During the fourteen years the Home Ownership Plan has been in operation, 2,756 employees have acquired or built homes valued at $20,415,000, on which the Company guaranteed second mortgages aggregating $5,319,000. The unpaid balance on the 383 mortgages outstanding at the close of 1937 was $212,000."

Printing Patents

Recently Granted By U. S. Patent Office

Book Binding:

2,112,389. SHEET BINDER. Clarence D. Trussell, Poughkeepsie, N. Y., assignor to Trussell Manufacturing Company, Poughkeepsie, N. Y., a corporation of New York. Application April 24, 1935. Serial No. 17,917. 7 Claims. (Cl. 281—25.)

A partly completed sheet binder adapted for use in binding into book form a plurality of superimposed sheets having registering perforations along the edges to be bound, the binder comprising a series of prongs spaced in accordance with the perforations in the sheets to be bound and formed from successive portions of a piece of pliable, metal wire doubled upon themselves and united with each other at corresponding ends by an aligned series of intervening connecting portions, the prongs being bent into partly closed sheet attaching elements, each having end portion of the approximate curvature of a circular ring of a circumference equal to the length of the prong and an intermediate portion of reversed curvature such as to form an external reentrant portion between its end portions and cause its free end to be spaced from its opposite end, the binder being thus adapted to have the free ends of its partly closed loops thrust through the perforations in the sheets to be bound and bent to the forms of approximately circular, closed rings by reversing the curvature of the intermediate portions and causing it to conform with that of the end portions.

Composing Machines:

2,112,127. TYPOGRAPHICAL COMPOSING MACHINE. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application November 30, 1936. Serial No. 113,383. In Germany June 13, 1936. 10 Claims. (Cl. 199—45.)

A typographical composing machine having a plurality of matrix magazines, a supporting frame therefor, and mechanical means for raising the magazines comprising a member which is connected indirectly to the supporting frame by adjustable means allowing accurate adjustment of the frame in relation to the raising means.

2,112,128. TYPOGRAPHICAL COMPOSING MACHINE. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application November 30, 1936. Serial No. 113,386. In Germany June 20, 1936. 7 Claims. (Cl. 199—45.)

A typographical composing machine having adjustable magazines and interchangeable magazine entrances, wherein means common to the operations of shifting the magazines and changing the matrix entrances are so arranged as to allow the operations to be effected independently irrespective of the number and relative arrangement of the magazines.

2,112,134. TYPOGRAPHICAL SLUG CASTING MACHINE. John Ernest Billington, Altrincham, and Richard Henry Scott, Enfield, England, assignors to Linotype and Machinery Limited, London, England, a company of Great Britain. Application November 17, 1936. Serial No. 111, 206. In Great Britain November 23, 1935. 8 Claims. (Cl. 199—50.)

A typographical slug casting machine comprising line clamping jaws and quadding devices, a mold slot, a filling piece mounted independently of the jaws and adapted to reduce the depth of the slot over the length not presented with matrices, and means for detachably connecting the filling piece to a jaw, when desired, in order that it is moved therewith when the latter clamps the line.

2,112,177. SLUG CASTING MACHINE. William L. Petersen, Springfield, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application October 31, 1936. Serial No. 108,559. 20 Claims. (Cl. 199—47.)

Patent Papers

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C. and enclose 10 cents for each patent paper wanted.

In a slug casting machine, the combination of a mold, a pump plunger for filling the mold with molten metal under pressure, and automatic means for creating a pause in the normal operation of the machine after the mold has been filled with molten metal but before the machine has completed its normal cycle to allow additional time for the metal to solidify before the pump pressure is removed.

2,116,018. TYPOGRAPHICAL COMPOSING MACHINE. Frank C. Frolander, Elizabeth, N. J., assignor to Mergenthaler Linotype Company, a corporation of New York. Application December 22, 1936. Serial No. 117,119. 17 Claims. (Cl. 199—25.)

A power operated mechanism for typographical machines including, in combination, an actuating element, means for operating the element, control means for normally maintaining the operating means inactive and operable periodically to render the means active to inaugurate the operation of the actuating element, and safety means operable upon the abnormal operation of the control means, to act independently of the control means to arrest the operating means after its operation of the actuating element.

2,116,035. SLUG CASTING MACHINE. Richard R. Mead, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application December 10, 1936. Serial No. 115,089. 43 Claims. (Cl. 199—50.)

A slug casting machine including, in combination, left and right line clamping jaws, movable jaw supports therefor, means for adjusting the right hand jaw relatively to its movable jaw support to the left of its normal position, and means for locking the jaw to its support in its adjusted position.

2,116,051. TYPOGRAPHICAL COMPOSING AND CASTING MACHINE. Thomas J. Thatcher, Huntington, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application May 6, 1936. Serial No. 78,149. 18 Claims. (Cl. 199—62.)

A knife wiper for the slug trimming knife of a slug casting machine, the wiper being formed to engage the inner face of the knife.

2,116,460. TYPE CASTING MACHINE. Robert J. Woodruff, Duluth, Minn. Application January 30, 1936. Serial No. 61,594. 3 Claims. (Cl. 22—2.)

A type casting machine comprising a casting box having a cavity therein, a printer's stick having one open side and a thickness less than the width of the cavity in the casting box and adapted to be received by the cavity with the bottom of the stick engaging one side wall of the cavity and being spaced from the opposite side wall of the cavity, the stick adapted to receive a plurality of matrices in stacked formation with the letter forming faces of the matrices facing the opposite side wall of the cavity and being spaced therefrom, the portion of the cavity not occupied by the

FOR MAXIMUM

SHRINKAGE

USE

SPEED Electric Scorchers

Floating Cover
Model 43-SP-4

Are you looking for more shrinkage? One of the simplest ways of getting maximum shrinkage with minimum trouble is to use Speed scorchers. These scorchers leave the mat free and give an even distribution of heat. Therefore, if shrinkage is in the mat, this Speed scorcher gets it. Use two scorchers—one to pre-heat and shape the mat at low heat and the second for hot scorching. The (Speed Floating Cover) Model 43, shown above, has all the essential features for eliminating all mat abuses, and is fool-proof in its operation.

Write for prices and other information

SPEED PRODUCTS, Inc.

437 East 106th Street **Cleveland, Ohio**

FOR THE COMPOSING ROOM

THE NEW DOUBLE EAR

Slip Off INGOT

For Margach and Kendall Feeders

Slips off the hook automatically when it reaches the part where in the old ingot the hot tip hanging on the hook had to be lifted off by hand.

AIR-COOLED OR WATER-COOLED MOLDS FURNISHED FOR REMELTING

See them in operation at the ANPA Convention in Toronto.

Make your next order for United American Linotype metal (as fine a type metal as is made) and you will be happy with both the metal and the Slip-Off Ingot.

For further particulars write

United American Metals
CORPORATION

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Patented

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...AND THEN THEY SWITCHED TO BACKOTE SHEETS
EVEN THE BOSS CAN'T "BLOW UP" ABOUT OUR WORK WITH BACKOTE SHEETS
BACKOTE PLATES HAVE FREED US FROM THE OLD ASPHALTUM MESS TOO
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THE fumes of most asphaltum removers are highly explosive. Why not eliminate this danger by specifying Backote Sheets, which do not require asphalting? Every sheet of Backote is finished with a metallic coating which resists all engraving acids. They offer a time-saving, mess-saving and health-saving method which is meeting modern standards of economy, efficiency and greater speed in many plants.

You can order Zomo Electric Zinc Backote Sheets and A-Z Alloy Backote Sheets from leading metal suppliers in the United States, Canada and England.

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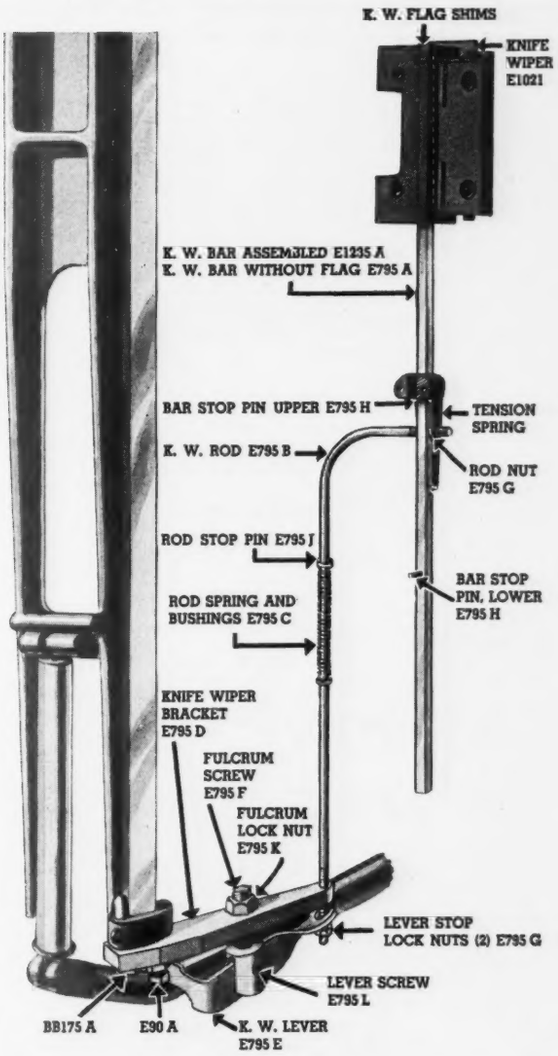
THIS IMPROVED DOWN STROKE KNIFE WIPER

Clears the knives at the **Top** and **Bottom.** The flag cannot be caught in the middle **in case** of an accident.
Spring tension pressure **insures** pressure of flag against knives.
A number of other advantages detailed in circular that is available.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TENSION SPRING
K. W. ROD E795 B
ROD NUT E795 G
ROD STOP PIN E795 J
BAR STOP PIN, LOWER E795 H
ROD SPRING AND BUSHINGS E795 C
KNIFE WIPER BRACKET E795 D
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The **only** wiper of its type that is available at so low a price

$7.50 Complete
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VISIT OUR BOOTH NO. 2
AT THE A.N.P.A. CONVENTION

Phelps Publishing, Springfield just wrote us—"Just removed an Ace Assembler Belt which was put in service June 23, 1933, machine runs night and day." **Here is the equivalent of almost 10 years of service.**

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LINOTYPE PARTS COMPANY

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314 West 10th St.

Chicago—318 West Randolph St.
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Los Angeles — 1133 Maple Ave.

stick and matrices adapted to receive molten lead, whereby the lead is brought into cont actwith the letter-forming faces of the matrices, the bottom of the stick being tapered in the direction of its movement into the cavity in the casting box.

Feeding, Folding, Delivery:

2,113,650. SHEET DELIVERY DEVICE. Hyman E. Golber, Chicago, Ill., assignor to Miehle Printing Press & Manufacturing Company, Chicago, Ill., a corporation of Illinois. Application November 18, 1936. Serial No. 111,368. 7 Claims. (Cl. 271—79.)

In a sheet delivery device, the combination of a traveling sheet conveyor having sheet holding means, sheet seizing means arranged to receive a sheet from the conveyor, engage it at its lower surface only and along opposite edges and hold it against further forward movement, a sheet support, sheet guides arranged adjacent opposite edges of the support, mechanism for operating the seizing means to move the latter outwardly and beyond the guides to deposit a sheet while within the confines of the guides and then move around the respective edges of the sheet into position to receive another sheet.

2,115,282. APPARATUS FOR USE IN CONNECTION WITH THE MAKING OF BAGS. Adolph Potdevin, Garden City, N. Y., assignor to Potdevin Machine Company, Brooklyn, N. Y., a corporation of New York. Original application April 22, 1932, Serial No. 606,839. Divided and this application September 29, 1934, Serial No. 746,083. 5 Claims. (Cl. 112—10.)

In an apparatus, the combination of means for advancing articles successively along a support, means in the path of the articles for folding tape over the ends of the articles and to secure the same in place to provide a plurality of advancing articles connected by the tape, a drive for the advancing means operating continuously, rotary cutters for severing the tape between adjacent articles, driving mechanism for the cutters, and cam mechanism between the cutter driving mechanism and the driving mechanism for the advancing means and controlled by the latter to effect intermittent rotation of the cutters.

2,113,902. SHEET CONVEYING DEVICE FOR PRINTING MACHINES. Primo Radice, Milan, Italy, and Hermann Schwerdt, Berlin-Falkensee, Germany, assignors to the firm Adrema Maschinenbauges m. b. H., Berlin, Germany. Application October 26, 1937, Serial No. 171,128. In Germany October 15, 1936. 9 Claims. (Cl. 101—57.)

In a sheet-conveying device for printing machines which are equipped with a printing mechanism and with mechanism for moving printing plates past a printing station in their longitudinal direction; a table, a container for a supply of sheets on the table, conveyor belts arranged with their upper reaches above the table and at right angles to the direction in which the printing plates move, means for moving the upper reaches from the supply container toward the printing station, means for delivering a sheet at a time from the supply container to the upper reaches of the belts with one of its longer edges leading, a movable check for arresting the sheet when it has arrived at the printing station where the first impression is made, intermittently operating means for shifting the sheet longitudinally until all impressions have been made thereon, movable means for clamping the finished sheets against certain belts, and automatic means for alternately placing into active position the check and the clamping means.

2,114,124. SHEET FOLDING MECHANISM. Albert J. Horton, White Plains, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application September 26, 1936, Serial No. 102,694. 17 Claims. (Cl. 270—76.)

In a folding mechanism for a printing machine, a cylinder from which sheet-like products are directed, a pair of cooperating rotatable folding rollers to and between which the sheet-like products pass from the cylinder, to be folded thereby, and means to direct a stream of air only against the free side ends of the product adjacent one of the folding rollers as the product passes into the bite of the rollers.

Miscellaneous:

2,111,802. PIGMENT VEHICLE FOR PRINTING. Frank Graf Oswald, Manhasset, N. Y., assignor to John W. Masury & Son, Brooklyn, N. Y. No Drawing. Application April 2, 1935. Serial No. 14,229. 1 Claim. (Cl. 134—26.)

A non-volatile liquid vehicle for "cold color" printing requiring the application of heat to convert it into a hardened condition comprising by weight about 1177 parts of heat convertible varnish resin, about 1002 parts rosin-glycerol ester, about 105 parts of rosin, about 3109 parts of drying oil and about 178 parts of metallic drier dissolved in about 932 parts of chlorinated diphenyl having a distilling range lying between 278 deg. and 360 deg. C.

2,113,835. PAPER FEED GUIDE. Olaf T. Gylleck, Grand Haven, Mich., assignor to The Challenge Machinery Company, Grand Haven, Mich., a corporation of Michigan. Application October 26, 1936. Serial No. 107,663. 7 Claims. (Cl. 101—407.)

The herein described method of locating paper over inked type which consists, in providing a chase in which the inked type is located, supporting a plate at one side of the chase in a position to extend partly over the chase and the type therein for the major portion of the length of the chase, providing stops at certain predetermined points in the chase rolling the paper into a roll and placing it on the plate with its outer end and one side edge against the stops, unrolling the paper over the type, and withdrawing the plate.

A device comprising, an elongated plate, supporting studs fixed adjacent its outer side edge and extending downwardly, a shorter supporting stud secured to the plate adjacent at its inner portion extending downwardly, and stops connected with the plate adjacent one end and also adjacent the outer longitudinal edge, the stops extending upwardly from the plate a short distance.

2,115,283. APPARATUS FOR TREATING WAXED WEBS. Adolph Potdevin, Garden City, N. Y., assignor to Potdevin Machine Company, Brooklyn, N. Y., a corporation of New York. Application May 31, 1935. Serial No. 24,294. 11 Claims. (Cl. 91—18.)

An apparatus, comprising in combination means for effecting the continuous advance of a waxed paper web, heating elements in the path of the traveling web for fusing the surface wax of the web at spaced intervals, and means in the path of the web for subsequently removing the fused wax.

2,115,692. PRINTING APPARATUS. Robert J. Thorn, Chicago, Ill., assignor to Reynolds Appliances Corporation, Chicago, Ill., a corporation of Illinois. Application April 8, 1937. Serial No. 135,658. 23 Claims. (Cl. 197—2.)

A printing apparatus comprising in combination a card supporting base, a forwardly extending arm overhanging the rear portion of the base, a carriage beneath the arm comprising a back piece and a pair of laterally spaced forwardly extending pieces and suspended from the front portion of the arm so that it is shiftable in a sidewise manner over the card, a type case with a set of individually and vertically movable type therein disposed within the carriage and connected to the side pieces so that it is shiftable sidewise with the carriage and is also shiftable relatively thereto to and from the front of the base, and a vertically slidable plunger carried by the front end of the arm over the type case and adapted when the case is shifted so that a type is disposed directly therebeneath to be lowered so as to shift the type and cause it to effect an impression on the card.

2,115,822. MEASURING OF RUNNING WEBS. Johannes Menschner, Rosswein, Germany. Application August 30, 1934. Serial No. 742,117. In Germany December 6, 1933. 6 Claims. (Cl. 33—129.)

An apparatus for the longitudinal measurement of running webs comprising, a measuring roller, an endless measuring band, and a second measuring roller in contact with the endless measuring band, means for guiding the web to be measured along a curved path between the first mentioned measuring roller and the surface of the endless measuring band, measuring means operatively connected with each of the measuring surfaces, and differential mechanism connecting both the measuring means with a single ounting device.

• IMPROVED DESIGN MAGAZINES

Weigh only 30 pounds. Strong, sturdy, accurate. Sent on trial if desired. Now offered on attractive terms,

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BALANCE $10 MONTH

So low that they pay for themselves through increased production and time saved. Also made in all-brass style for those who prefer them. Same price and terms. Many other replacement parts, accessories and repairs described in our new free catalog. We buy, sell and trade in new, used and rebuilt typesetting machine equipment. Why not tell us about surplus fonts, molds, motors, etc.?

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21″x25″x1/16″ . . . each $3.00
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20″x24″, thickness .062 . each $4.50

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testify to its merit for preparing stereotype matrices to the highest state of perfection for casting improved plates. Used in newspapers all over the world, this machine is designed to dry and form flat, curved or tubular matrices. There is a model for every purpose. Write for details—

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LESS WASH-UP *with*

MERCURY BLANKETS

RAPID ROLLER CO.

D. M. Rapport
President

26th at Federal St.
Chicago, Illinois

Plate Making:

2,111,914. REGISTERING DEVICE FOR USE IN MAKING PRINTING PLATES. Charles E. Kohlberger, Garden City, N. Y., assignor to Hearst Enterprises Incorporated, New York, N. Y., a corporation of New York. Application May 3, 1935. Serial No. 19,661. 2 Claims. (Cl. 101—401.1.)

A method of making a stereotype plate which consists in mounting a plurality of light-permeable negatives on a rigid transparent support having opaque markings which define separated areas of the support, the negatives being mounted in the areas and fitting substantially in the areas, the support also having additional markings between the adjacent edges of the areas so that the mounted negatives are spaced from the additional markings, photographically printing the assembled negatives and the opaque markings of the support by transmitted light on the sensitized surface of a metal plate, developing and etching the metal plate, trimming the metal plate at its edges along lines which are substantially parallel to the edges of the areas and which are defined by the representations of the markings on the metal plate, forming perforations in the metal plate corresponding to at least some of the photographs of the markings on the metal plate and spaced from the representations of the negatives on the metal plate, the perforations being formed substantially at the edges of the areas, locating the perforated metal plate in a pan which has pins fixed thereto and which have pins which enter the openings, and pressing a duplicate of the etched surface of the metal plate in flong, and using the flong to cast a stereotype plate.

2,112,416. TYPE INTAGLIO ENGRAVING PLATES AND METHOD FOR THEIR PRODUCTION. Ralph Dewberry, Birmingham, Ala. Application February 17, 1937. Serial No. 126,229. 2 Claims. (Cl. 95—5.7.)

The process for the production of intaglio engraving plates from impressions printed on a transparent sheet and treated with material to blacken and more clearly define such impressions, which consists in inverting the printed sheet, interposing a second plain transparent sheet between the printed surface of the first transparent sheet and the light sensitive, acid resistant film coat on an engraving plate, holding the sheets against the plate, and printing the impressions on the coat, then washing, burning and etching the printed plate.

2,114,288 PRINTING PLATE AND METHOD OF MAKING THE SAME. Arthur B. Davis, Springfield, Ohio. Application August 22, 1935. Serial No. 37,319. 5 Claims. (Cl. 41—25.)

For use in reproducing from an original type form a printing plate comprising type areas of molded resin adhering to a metal carrier sheet, the method which comprises forming a mold from the type face, covering the mold face with a layer of moldable material, placing the carrier sheet over the layer with a parting medium interposed therebetween to expose the material to areas of the sheet corresponding in size and shape to the type indentations in the mold, applying pressure to the mold and carrier sheet whereby to cause setting of the material with the molded type areas only adhering to the carrier sheet, and stripping off the parting medium and the material adhering thereto.

2,114,325. MAKING WHITE-CORRECTED POSITIVES FOR THE PRODUCTION OF PRINTING PLATES. William J. Wilkinson, Eastchester, N. Y. assignor to Miehle Printing Press & Manufacturing Company, Chicago, Ill., a corporation of Illinois. Application January 12, 1935. Serial No. 1,487. 3 Claims. (Cl. 95—5.1.)

The process of making a white-corrected positive from a negative of the original subject, which comprises, making a positive transparency from the negative, opaquing on said positive all tone values except white, making from the opaque positive a block-out negative in which the white areas of the subject are opaque and all other areas are transparent, superimposing the negatives in register with one another, and making, by means of light transmitted through the superimposed negatives, a positive which is clear in its white areas and has tone values in its other areas.

Presses:

2,110,216. DUAL PURPOSE DISTRIBUTING SYSTEM FOR ROTARY OFFSET AND LITHOGRAPHIC PRESSES. John G. Goedike, San Antonio, Tex. Application September 10, 1937. Serial No. 163,249. 7 Claims. (Cl. 101—148.) (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)

The method of simultaneously inking and dampening printing surfaces of rotary offset and lithographic printing members, which consists in feeding water in the form of drops from a source of supply to a distributing system, transmitting the water together with a film of ink to a printing surface through the distributing system, whereby an ink repellent coating of water will be applied to the non-design portions of the printing surface, and ink will be applied to the design portions of the surface.

2,110,228. PRINTING MACHINE. Alfred Harry Lakeman and Leslie Augustus Gale, London, England; said Gale assignor to said Lakeman. Application December 21, 1936. Serial No. 117,089. In Great Britain December 23, 1935. 13 Claims. (Cl. 101—288.)

A platen printing press having a platen movable relatively to a fixed printing bed, a rotary support for a roll of paper, a rotary take-up spindle for taking up a web of paper passing from the feed roll across the platen to the spindle, a reciprocatory gripper, the feed roll support, take-up spindle and reciprocatory gripper all being carried by the platen, a continuously rotating driving shaft on the press, and means driven by the shaft for driving the take-up roll and reciprocating the gripper for the purpose of feeding the paper web across the platen intermittently.

2,110,901. WEB CUTTING MECHANISM FOR PRINTING MACHINES. Adolph M. Zukerman, New York, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 6, 1935. Serial No. 53,207. 14 Claims. (Cl. 270—70.)

In a machine for feeding and cutting a web into sheets and folding the sheets, a frame, a folder operably supported in fixed position in the frame, a carriage mounted for movement relative to the frame, a plurality of pairs of cooperating cutting cylinders operably supported in the movable carriage, each pair of cooperating cutting cylinders being of different diameter so that each pair cuts products of length different from the lengths of the products cut by the other pairs, means for feeding the web through a predetermined path of travel, means for fixedly securing the movable carriage in position to locate a selected pair of cooperating cutting cylinders in operative position to engage and cut the web into sheets of predetermined length during the travel of the web through its predetermined path, and means for feeding the cut sheets from the selected pair of cooperating cutting cylinders through a predetermined path of travel to the fixed folder where the sheets are folded.

2,110,289. ROTARY INTAGLIO PRINTING PRESS. Curtis S. Crafts, Oak Park, Ill., assignor to The Goes Printing Press Company, Chicago, Ill., a corporation of Illinois. Application January 6, 1936. Serial No. 57,683. 19 Claims. (Cl. 101—157.)

A rotary intaglio inking mechanism including in combination a longitudinally reciprocable blade carrier, a doctor blade mounted on the carrier to reciprocate on the design cylinder, means mounted on the carrier for resiliently pressing the doctor blade against the design cylinder, means for regulating the pressure of the doctor blade on the cylinder, and means for moving the doctor blade into and out of operative relation with the design cylinder without disturbing the setting of the pressure regulating means.

2,109,768. INK DISTRIBUTION IN PRINTING MACHINES. John Oldfield Crabtree, Hillcrest Thorner, England, assignor to R. W. Crabtree & Sons Limited, Leeds, England. Application February 20, 1936. Serial No. 64,903. In Great Britain December 11, 1934. 16 Claims. (Cl. 101—350.)

In a rotary printing press, means for maintaining contact between the form-inking and ink distributor rollers and the printing surfaces and ink distributing drums, comprising bearings which are adjustable towards and away from the surfaces on which the rollers are to be applied, fluid

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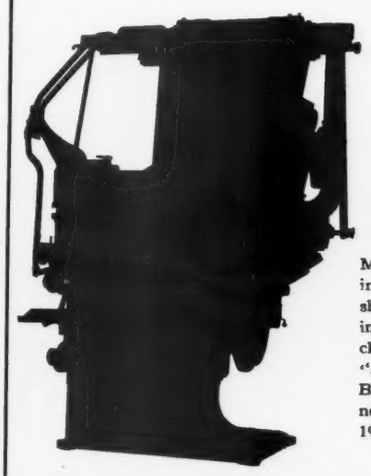

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pressure chambers disposed in fixed position in relation to the surfaces and movable elements within the pressure chambers which are provided to act upon the bearings to press the form-inking and ink distributor rollers into contact with the printing surfaces and ink distributing drums respectively, and means for the supply of fluid under pressure to the pressure chambers.

2,111,728. DELIVERY MECHANISM FOR USE IN DELIVERING THE PRODUCTS OF PRINTING MACHINES IN COUNTED BATCHES. Cecil George Quick, Donald Arthur Ball, and William Arnold Whitehead, London, England, assignors, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application August 14, 1934. Serial No. 739,750. In Great Britain August 16, 1933. 18 Claims. (Cl. 93—93.)

Delivery mechanism comprising a rotatable fly, a conveyer device which while receiving copies from the fly moves in the same general direction as the delivery side of the fly, an abutment member having two abutment surfaces up to which the copies are carried by the fly, a first surface causing copies engaged by it to fall from the fly at an earlier time in the rotation of the fly than copies engaging the second surface, and means operating the abutment member first to present the first surface to a succession of copies and then the second surface which allows the copy engaging the other surface to overlie the preceding copies and thus to indicate the extent of the batch constituted by the succession of copies.

2,112,078. PRINTING PRESS. Hobart N. Durham, Munsey Park, Manhasset, N. Y., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application May 9, 1935. Serial No. 20,533. 21 Claims. (Cl. 270—68.)

A high speed rotary folding mechanism including in combination a sheet carrying cylinder, sheet taking means mounted on the cylinder, a pair of folding-off rollers, and means for buckling a plurality of sheets from the cylinder including a positive stop engaging the forward ends of the sheets.

2,112,118. APPARATUS FOR INTAGLIO OR THE LIKE PRINTING. Harper Woodhead, Blackborough, near Cullompton, England. Application December 5, 1936. Serial No. 114,510. In Great Britain July 24, 1935. 1 Claim. (Cl. 101—194.)

A printing machine comprising a rotary table, means to secure a plurality of similar printing plates thereon, inking means operable opposite one point of the rotary table to transfer color to each plate in turn, doctor means to remove excess color from the plate, a plurality of ink pads bearing differential patterns and diposed in spaced relationship angularly around the table, means to apply color to each of the patterned pads in turn, means to apply each patterned pad in turn to each plate in turn, and means to obtain a printing impression from each plate in turn when it has received the various color impressions.

2,112,216. PRINTING PRESS. James R. Wood, Shelton, Conn., assignor to Harris-Seybold-Potter Company, Cleveland, Ohio, a corporation of Delaware. Application November 26, 1934. Serial No. 754,838. 54 Claims. (Cl. 101—189.)

In a printing press, a reciprocating bed, two impression cylinders cooperating with the bed, gears on the impression cylinders, a rotating element turning on a fixed axis having a gear meshing with the gears on both of the impression cylinders, and means mounted on a single shaft actuated directly by the rotating element for imparting constant speed motion to the bed on the printing stroke.

2,112,586. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 9, 1937. Serial No. 135,851. 4 Claims. (Cl. 101—179.)

In a web perfecting rotary press, first and second multicolor printing units located in different horizontal planes in line with each other, each printing unit comprising an impression cylinder and a plurality of form clyinders arranged in the first printing unit around the under side of their impression cylinder and in the second printing unit around the upper side of their impression cylinder, first and second drying units, a web supply roll, and means for leading the web through the units.

2,112,587. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 9, 1937. Serial No. 135,852. 3 Claims. (Cl. 101—179.)

In a web perfecting rotary press, first and second multicolor printing units, first and second drying units, the first drying unit being located between the first and second printing units and the second drying unit being located beyond the second printing unit, each printing unit comprising an impression cylinder and a plurality of form cylinders arranged around the side of the impression cylinder opposite a drying unit, a web supply roll, and means for leading the web therefrom through the units.

2,112,588. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 9, 1937. Serial No. 135,853. 6 Claims. (Cl. 101—179.)

In a web perfecting rotary press, lower and upper multicolor printing units, lower and upper drying units, each printing unit comprising an impression cylinder and a plurality of form cylinders arranged around the side of the impression cylinder opposite a drying unit, the printing units being located in substantially the same transverse vertical plane, a web supply roll, and means for leading the web through the units.

2,112,589. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 9, 1937. Serial No. 135,854. 4 Claims. (Cl. 101—179.)

In a web perfecting rotary press, first and second multicolor printing units, first and second drying units, each printing unit comprising an impression cylinder and four form cylinders, three form cylinders for one side of the impression cylinder and one form cylinder for the opposite side thereof each drying unit comprising a heating cylinder and one or more cooling cylinders, a web supply roll and means for leading the web through the units, the printing and drying units being located in line with one another, the printing units in different horizontal planes and the drying units in different horizontal planes.

2,112,590. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 9, 1937. Serial No. 135,855. 3 Claims. (Cl. 101—179.)

In a web perfecting rotary press, first and second multicolor printing units, first and second drying units, each printing unit comprising an impression cylinder and five form cylinders, three form cylinders for one side of the impression cylinder and two form cylinders for the opposite side thereof, each drying unit comprising a heating cylinder and one or more cooling cylinders, a web supply roll, and means for leading the web through the units, the printing and drying units being located in line with one another, the printing units in different horizontal planes and the drying units in different horizontal planes.

2,112,591. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 9, 1937. Serial No. 135,856. 4 Claims. (Cl. 101—179.)

In a web perfecting rotary press, four multicolor printing units, first and second drying units, each printing unit comprising an impression cylinder and a plurality of form cylinders arranged around the side of the impression cylinder opposite a drying unit, a web supply roll, and means for leading the web through the units, the first drying unit being located between the two sets of printing units and the second drying unit being located beyond the second set of printing units.

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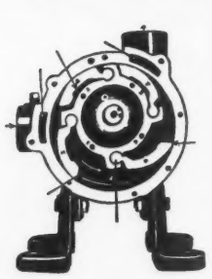

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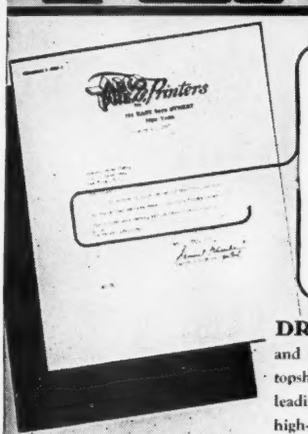

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2,115,081. APPARATUS FOR SUPPLYING INK IN PRINTING PRESSES. Thomas Padula, Jersey City, N. J. Application May 5, 1937. Serial No. 140,796. 5 Claims. (Cl. 101—356.)

In combination, a reciprocatory bed having a rack longitudinal to the path of the bed; an inking device comprising a pair of bearing brackets on opposite sides of the path; parallel form rollers having roller end shafts mounted in the brackets; a large stationary tubular bearing member mounted and spaced coaxially around the adjacent end one of the roller shafts; a ring gear rotatably received on the bearing member meshing with the rack; a distributor roller resting on the form rollers and provided with end shafts rotary in the upper part of the bearing brackets, one end of the vibrator having a gear meshing with the ring gear, and means for causing endwise reciprocation of the vibrator when rotated back and forth.

2,115,579. INK ROLLER SOCKET FOR PRINTING MACHINES. Thomas S. Hannaford, Winthrop, Mass., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 20, 1933. Serial No. 703,264. 5 Claims. (Cl. 308—75.)

In a socket for supporting a shaft, separable sections hingedly secured together at one side, means disposed at the other side to retain the sections in shaft enclosing relation and at varying degrees of separation with respect to each other to permit the shaft to be supported in a plurality of positions, the means comprising a link secured at one end to one section and an arm swingably secured to the other end of the link, and means operable by the arm and engageable with the other section to permit and limit the separation of the sections when the arm is swung in one direction and to clamp the sections together when the arm is swung in the other direction.

2,115,725. ROTARY PRINTING MACHINE. Paul Koch, Plauen, Germany. Application July 10, 1936. Serial No. 89,869. In Germany July 13, 1935. 10 Claims. (Cl. 101—157.)

In a rotary photogravure machine, a printing cylinder, an impression cylinder, and a casing completely and closely enclosing the printing cylinder and the impression cylinder.

2,115,734. INKING MECHANISM FOR PRINTING MACHINES. Frederick Lamatsch, Grantwood, N. J., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application October 23, 1934. Serial No. 749,637. 18 Claims. (Cl. 101—350.)

In an inking mechanism for a printing couple including a plate cylinder and an impression cylinder, a plurality of rotary ink distributing cylinders, means for supplying ink to one of the cylinders, means for axially reciprocating the ink distributing cylinders so that only one cylinder is axially stationary at a time and the reciprocatory impulses of the cylinders being equally separated so that the cylinders follow each other through similar cycles of operation during equal periods of operating time, to maintain a constant balanced load on the ink distributing cylinder reciprocating means, ink distributing rollers operably engaging the ink distributing cylinders and coacting therewith to spread the ink in a uniform film, and means for conveying the ink film to the plate cylinder.

2,115,975. DRIVE FOR MULTICOLOR PRESSES. Charles W. Harrold, University Heights, Ohio, assignor to Harris-Seybold-Potter Company, Cleveland, Ohio, a corporation of Delaware. Application January 4, 1936. Serial No. 57,542. 19 Claims. (Cl. 101—177.)

In a drive for a sheet handling machine having a plurality of units adapted to operate upon the sheets in registered relation, each of the units comprising a plurality of operating elements and adjacent units being operatively interconnected by means of the elements, means for imparting driving force to a single element in each unit from which the other elements of the units take their driving force, and means associated with the other elements for compensating against the tendency to bind due to the application of driving force forwardly and rearwardly from the single elements.

AFFIRMS RULING—According to May 14 issue of Cincinnati *Enquirer*, United States Circuit Court of Appeals affirmed the decree of District Judge Fred M. Raymond, Grand Rapids, Mich., in the patent litigation between the Ideal Roller and Manufacturing Company, Chicago, Illinois, and Arthur Davis, inventor, Springfield, Ohio, against the Sutherland Paper Company, Kalamazoo, Michigan, and Samuel Bingham and Son Manufacturing Company, Chicago. Judge Raymond held the first three claims of the Davis patent were valid. He denied the validity of the four other claims of the patent in suit.

Addresses Club

On May 4, Douglas C. McMurtrie, Director of Typography, Ludlow Typograph Company, addressed the Chicago Direct-Mail Advertising Club, on the subject "Typography which Delivers the Sales Message." Each person attending received a portfolio of proofs prepared for the meeting, illustrating practical points which should be given consideration in planning printing that will effectively carry the story to the comprehension of a reader.

Intertype Faces

Among the new two-letter display faces announced by Intertype this month is 18 point Egmont Bold combined with Bold Italic. For the label printer and for other work, Hobo is

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now available in three sizes. It is combined with Gothic No. 16 which is similar to Franklin Gothic. To Intertype's Lining Copperplate family has been added the extended version. Six point Nos. 34 and 35 are now available.

Bennett to Europe

Paul A. Bennett, in charge of typographic layout with the Mergenthaler Linotype Co., sailed on the S.S. Britannic Saturday, May 14, for a two-months' stay in Europe. He will spend several days with affiliated companies in England and Germany, and will visit printers, publishers, libraries, museums and type foundries in London, Manchester, Cambridge, Oxford, Glasgow, Edinburgh, Berlin, Leipsic, Frankfort, Mainz, Amsterdam, Haarlem, Antwerp, Prague and Paris. He expects to return to America late in July.

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PRESSES, REELS, PASTERS—"All Scott Equipment is thor-ghly modern. Long experience d intensive study have enabled creation of basically superior signs. Fast—reliable—safe—icient." Write for data.

NEWS and COMMERCIAL INKS—The Howard Flint Ink mpany will be glad to send you mplete information about inks for wspaper and commercial work.

PLATEN PRESS—Kluge Auto-matic—"easiest to keep profit-ly busy . . . dependable on heavy s . . . has more weight and is lanced and governed to overcome ration and give perfect impres-n."

PRESSES—1938 Goss installa-tions listed on page 9. Re-arch and Engineering Department ll send full facts and figures, pro-ction records and specific infor-tion on any problem.

INKING ROLLERS—"You can-not afford to guess at results en production and quality are of ramount importance. Hundreds formulas available to meet every acting purpose."—Ideal Roller mpany.

PRESS BLANKETS—"Fitz Live-cork press blankets will give re good impressions without kready and without taking a rmanent set." Use the return rd and manufacturer will send mples and prices.

TYMPAN PAPER—Riegel Tym-pans—"Drumhead, a ready-cut d scored topsheet of treated jute. rtifine — low priced — strong — al for short runs. Treated Jute—liable—good for long runs."

"OFFSET SIMPLIFIED"—get your copy of this book today . . . cost—no obligation. Weben-rfer shows two newspaper offset sses on page 53. Additional rmation sent on request.

NEWS INKS—"At your com-mand at any time—the practi-l, tested suggestions of the Morrill rvice Man, representing the larg-t maker of news blacks and color ks."

MERCURY LAMPS—"for light-ing that penetrates among rking parts of the press and shows every critical guide-roll and justment. Install G. E. Type H ercury Lamps. Efficient and onomical."

BLANKETS—ROLLERS—CUTTING RUBBERS—"for ality press work at low cost, in-stigate these 'press-proved' Good-ar products."—See page 4 for impressive list of users.

COMPLETE DRIVE and CON-TROL SYSTEM—installed in new Toronto Globe and Mail nt by General Electric. See page for description and illustrations. ll mail further information on G.E. uipment for printing plant use.

14 ROLLER BEARINGS—Timken Tapered Roller Bearings "hold plate and impression cylinders in alignment in face of heaviest loads—eliminate friction and reduce wear—slash maintenance costs."

15 DRIVES—REELS—TENSIONS—PASTERS—Alternating current press drives with full automatic control are furnished for all sizes of newspaper, magazine and roto-gravure presses by Cline. Recent installations page 23.

16 SAMPLE GLOSS INK PRINTING—For beautiful print lithographed in four Supergloss Offset Colors, circle No. 16 on post card. Sinclair and Valentine will send it to you.

17 ROLLERS—"Dayco Rollers embody superior inking characteristics—are extraordinarily durable—have the right consistency and affinity to properly distribute ink." Ask for further details.

18 PRESS BLANKETS—Prices reduced on Tingue press blankets—built to accommodate the narrower widths. Featured on page 57. Felt, Cushion Cork, Tingucork, Foundation blankets. Write for particulars.

19 MULTI-COLOR PRESSES—"Today, large profits in color printing are not confined to long runs on large presses." Investigate the fast Cottrell rotary presses for sheets 11 x 17 to 50 x 72.

20 TYMPANS and FACE FELTS—"Oil Proof Face Rubber Blanket, the new DeLuxe Monocork Blanket and new Stipple Tympan Sheet"—New England Newspaper Supply's three-piece press packing combination. Page 99.

21 BALL-BEARING ROLLER CORES—Manufactured by William C. Hart Company—"Can make tremendous saving for you." Advantages are listed on page 93. Circular and prices will be mailed without obligation.

22 INK—Announcement has just been made by the Huber Ink Company of the development of a new ink—"Hubertone." Learn all about it. Use the return card.

23 ROTARY PRESS—Special features of the Duplex unitubular: Removable fountains, special color register devices, four colors in one unit, fold centering device and others listed on page 71.

24 PRESS BLANKETS and INKING ROLLERS—for newspaper and commercial work. See page 47. Will send printed matter "on these and other Vulcan money-savers."

25 ROLLERS—"The 12 new press units installed by the Toronto Globe and Mail are equipped 100% with Niles & Nelson's Goodrich Rollers." See page 8. Send for complete data.

26 PRESS BLANKETS—"Use Mercury blankets—they require less wash-up." Why not write to the Rapid Roller Company for additional information? Use the return card.

27 NEWS INKS—"The winner of the 1938 N. W. Ayer award is printed with I.P.I. inks—the standard of many successful papers. Ink is an important factor in good newspaper printing."

28 PRESSES and PASTERS—See page 67. Wood Steel Press and Full-Automatic and Junior pasters.

29 INKS—The Canada Printing Ink Company, Ltd., "has for more than fifty years been Canada's leading ink manufacturer."

30 ROLLERS—Investigate Wild and Stevens, Inc., for your roller needs. They manufacture all types of printing rollers.

31 NEWSPAPER PRESS UNITS—CASTERS—FOLDING EQUIPMENT—Manufactured by Hoe and installed in the Toronto Globe and Mail plant. See page 13. Particulars sent on request.

32 INKS—"For smooth coverage and quick drying qualities try Herrick inks—they hit the mark of quality." Send for samples today. Use the post card.

33 BEARINGS—"SKF bearings enable presses to run at extremely high speeds with low operating costs—assure accurate register—and guarantee cleaner reproduction. They last."

34 ROLLER CLEANER—for rubber, synthetic rubber and offset press rollers—Clipper Cleaner removes the hard glaze of resinous oil, metallic inks and scum. Read about it on page 102.

COMPOSING ROOM

35 PROOF PRESSES—for high speed newspaper production. Five of them shown and described on the inside back cover and opposite page. Investigate. Vandercook will mail circulars.

36 IMPROVED MAGAZINES—"Light yet strong, sturdy, and accurate. Sent on trial if desired. Attractive terms. Increase production—save time." Other replacement parts described in new, free catalogue.

37 STORAGE CABINETS—"To meet the heavy demand for spacing material . . . keep supply available in specially designed Hamilton Storage Cabinets. It pays."—See page 92. Full information on request.

38 MATRIX CONTRAST SERVICE—"1/3 of all your corrections can be completely eliminated . . . guaranteed to reduce total errors in original machine composition at least 25%." Write for booklet.

39 SAW TRIMMERS—C & G Saw Trimmers "are constructed of the finest materials—designed for precision and convenience—embody every possible protection." See them at the Sears, Ltd., booth in Toronto.

40 TYPECASTING MACHINES—"Monotype meets these newspaper problems: wider service to advertisers, increased mechanical

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production, lower cost of operation" —Lanston. Other advantages. See page 11.

41 LINOTYPE MACHINES—"Modernization is imperative but it must be attained carefully, intelligently. New machinery must pay its own way in added production, increased efficiency." Investigate Mergenthaler — inside front cover.

42 STRIP-CASTING MACHINE —"Elrod is easy to operate—produces quality work—will stand severe pressure."

43 POWER-LIFT FORM FILE—Designed for storage of daily forms by Sta-Hi. See Page 49.

44 HAMMOND COMPOSING ROOM SAWS—"built by Hammond to produce greater speed, ease, accuracy, economy and safety."

45 New double ear "Slip off" INGOT for Margach and Kendall Feeders. Molds furnished for remelting. See them in operation at A.N.P.A. Mechanical Conference. For further particulars use card. United American Metals.

46 KNIFE WIPER—for Linotypes —"Improved" — clears the knife at top and bottom—spring tension insures sufficient pressure of flag." Other advantages described in available circular.

47 MACHINE MOTORS—The Cushman Offset Motor "will operate your typesetting machine at its maximum capacity with less cost. The company were pioneers in direct drive." Further information mailed.

48 PROOF PRESS—New model series C Challenge Proof Press on page 43. Operation same principle as cylinder press. "Produces better results with less time, effort, and preparation."

49 LINE-CASTING MACHINE —"Ludlow's unlimited type supply available without preparatory expense—convenient all-slug make-up stands up under pressure."

50 TYPESETTING MACHINE—Linograph "50" will be shown at the A.N.P.A. Mechanical Conference. "It handles standard matrices—accommodates broad range of type—is speedy, quiet and smooth."

51 Composing room CABINETS —See the photographs of Thompson cabinets recently installed in the composing room of the Cleveland Plain Dealer. Ask the Thompson Cabinet Company for estimates.

52 TYPECASTING MACHINES —"For maximum flexibility in laying out matrix equipment—and for maximum range of type sizes which can be handled economically at full keyboard speed—standardize on Intertypes"—back cover.

53 MAT CLEANING SERVICE —Klean-O-Mat Process "to keep linecasting machines in peak operating condition and to hold down production costs." Full information and comparative cost analysis on request.

54 REPLACEMENT PARTS—for Linotype and Intertype machines, manufactured by Reid, "will effect real economy in the maintenance of your composing room." Send for illustrated catalog—use the return card.

55 SAWS—"Time consuming work with regular saw methods are mere routine with Rouse Band Saws." Will send circular and prices. Vertical Rotary Miterers also shown on page 92. Illustrated circular available on request.

STEREOTYPE DEPT.

56 ROTARY SHAVER and DOUBLE-PAGE PLATE MATCHING MACHINE—Featured on pages 16 and 63 by Sta-Hi, Inc. For adjusting plates for press work.

57 METAL MELTING EQUIPMENT—Three recent Kemp installations—Youngstown Vindicator, Toronto Globe and Mail, Green Bay Gazette, are guaranteed to save 40% in fuel, and speed up production. Investigate.

58 DRY MATS—"To get perfect tonal contrast—to hold the darkest shadows and the whitest highlights—do as hundreds of progressive newspaper plants do—use Wood Dry Mats."

59 MATRIX PRESS—The "Automatrix" for direct pressure moulding, manufactured by Watson Stillman Co., is shown on page 91. Specifications also given. Write for bulletin C.36.

60 PLATE GAUGE—See the Hacker plate gauge featured on inside back cover.

61 DRY MATS—"Don't leave well enough alone. Try Flex Dry Mats." Send for free samples—specify gauge, shrink, number of casts per mat, type of equipment.

62 PACKING FELT and SCORCHERS—"For quality packing felt at low prices try Flex-O-Felt." Free samples. "For scorcher perfection try Form-O-Scorch." Details mailed on request.—American Publishers Supply.

63 KASTERS and ROUTERS for your stereotype department —"built to produce with greater speed, ease, accuracy, economy and safety."—Hammond.

64 DRY MATS—"Quicker scorching, plus the assurance of good first casts, explain why many a stereo superintendent sticks to Certifieds as a basic necessity in meeting schedules."

65 ELECTRIC SCORCHERS—"For maximum shrinkage try Speed scorchers. They leave the mat free and give an even distribution of heat." Will mail prices and other information.

66 DRY MATS—"Attending the Convention?" Take your stereotype problems to the Burgess suite in the Royal York Hotel. Write or use the return card—a representative will call.

67 MOLDING BOARDS, BLANKETS and CREEPERS —Made by Coyne & Paddock, "will give you quality at low cost." Prices given page 96. Made in all sizes. Will send complete information.

68 NEW NEWSPAPER MAT—"New Rapid Five-Star Newspaper Mat has been tested and proved under everyday working conditions." See it at the A.N.P.A. Mechanical Conference. Ask for further description.

69 MATRIX PRESS—Six features of the Lake Erie Directomat are given on page 18. "Saves time, space and type; eliminates stretch and guesswork; improves register."

70 MAT FORMER—The Stahi "Autoformer reflects better and sharper printing without maximum impression." See page 3.

71 AUTO PLATES AND AUTO SHAVER—Wood's Automatic, Junior, Heavy-duty Pony and Standard Pony Autoplates. See page 67. Will send further information.

MISCELLANEOUS

72 CATALOGUE—The Eastern Newspaper Supply now offers a complete line of press and composing room supplies. Will send catalogue, completely illustrated. Many new items listed.

73 CONVEYING EQUIPMENT —The "new" Toronto Globe and Mail handles its newsprint, stereotype plates and bundles of [illegible] the Jampol way. Be sure to see [illegible] 12. Further information on [illegible]

74 TEMPERATURE CONT[illegible] LED ENGRAVING SH[illegible] For newspaper plant use. Se[illegible] 100. Write today giving [illegible] quirements and Electro-Hy[illegible] will send you complete inform[illegible] Use the post card.

75 ROLLER REFINISH[illegible] EQUIPMENT—"You [illegible] save money by refinishing your [illegible] rollers" states the Dustless R[illegible] ment Co. Let them send you [illegible] plete information. See page [illegible]

76 PAPER-HANDLING TRU[illegible] —Manufactured by Th[illegible] Parker with revolving apron [illegible] ment will pick up, transport [illegible] double-tier heavy rolls in pa[illegible] order. Photographs on page [illegible] show the equipment in action.

77 TYPE METAL—for your l[illegible] type, monotype, interty[illegible] Ludlow, autoplate or stereotype. [illegible] E. W. Blatchford Company [illegible] served the printing field for 84 ye[illegible] Send for particulars.

78 METAL QUALITY CO[illegible] TROL—The Imperial [illegible] Plan "will insure the quality of y[illegible] metal." One of the many bra[illegible] offices will be glad to consider y[illegible] metal problems. Page 51.

79 ENGRAVERS' SUPPLI[illegible] For your engraving ne[illegible] investigate the Harold M. Pl[illegible] Co., Zinc, Copper, Equipm[illegible] Chemicals and Special Proces[illegible] Booth 64 at A.N.P.A. Confere[illegible]

80 MOTORS—"Specially [illegible] motors for printing eq[illegible] ment—manufactured by Kimb[illegible] Check the return card for comp[illegible] literature on the use of these mo[illegible] in your plant.

81 ZINC—"Backotesheets [illegible] metallic coated to resist [illegible] graving acids. Save time and m[illegible] —protect health—will help [illegible] meet modern standards, efficie[illegible] and speed."—Atlantic Zinc.

82 NEW and USED EQU[illegible] MENT for printing, lith[illegible] raphy, bookbinding, and box m[illegible] ing. Investigate the M. L. Ahr[illegible] Co. line. Page 104. They will [illegible] glad to mail you their bulletin [illegible] request. Use post card.

83 METAL FEEDERS—for [illegible] typesetting and typecast[illegible] machines, also lino-slug routers [illegible] magazine racks—manufactured [illegible] Margach affiliated with Payne [illegible] Walsh, dealers in printing equ[illegible] ment.

84 ROLLER GRINDERS A[illegible] POLISHERS—Featured [illegible] page 89. "See this accurate ro[illegible] grinding and polishing equipm[illegible] in operation while at the Con[illegible] ence." Black Rock will s[illegible] particulars.

85 PHOTO-ENGRAVE[illegible] SUPPLIES—Machine[illegible] metals, chemicals and equipm[illegible] Let the Allan B. Croke Comp[illegible] send you a catalogue.

86 CUT MOUNTING CEM[illegible] Booth's Zink Cut Cement [illegible] fast and economical. 705 d[illegible] newspapers are using it too[illegible] Literature sent on request.

87 ZINC—"Edes can supply [illegible] amount of zinc in case [illegible] emergency need. Edes' custom[illegible] expect and get unvarying uniform[illegible] in every shipment regardless of [illegible] demand."

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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
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Technical Literature

Promotion Suggestions

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Precision Needle Roller Bearings and Needle Rollers

Bulletin No. 962—Just issued by Norma-Hoffmann Bearings Corporation. Precision Needle Roller Bearings described in the bulletin are made for many difficult duties such as cam rollers, planetary reduction gears, valve rocker shafts, pump shafts, idler gears in internal combustion engines and machine tools. Complete data as to sizes, dimensions, and load ratings of complete bearings and other pertinent information is given.

A Specimen of Types

Booklet, 16 pages, printed by Howard Coggeshall for Continental Typefounders Association, from types designed and engraved at the Village Press. The types shown are those designed by Frederic Goudy since 1932.

Reconditioning Flooded Electric Equipment

GEA Bulletin No. 2571B—Sixteen page bulletin describes and gives instructions for reconditioning electrical equipment which has been rendered unserviceable because of immersion in flood waters. Cleaning and conditioning instructions are presented for transformers, motors, meters, relays, switchboard panels and other electrical equipment.

For Greater Safety

New circular No. 323 issued by Lewis-Shepard Company shows many ways of introducing safety in indoor transportation of materials. In a recent survey in conjunction with an insurance company, Lewis-Shepard engineers found there were altogether too many accidents of a minor nature such as jammed fingers, toes, back sprains and the like. The folder shows how to eliminate minor as well as major injuries.

P-Double-E File Nos. 1DD, 4D.

Knives and Saws Last Longer

Small illustrated folder describes cutter, shear and circular saw knife and bandsaw grinders made by Samuel C. Rogers & Co.

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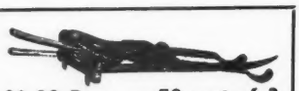

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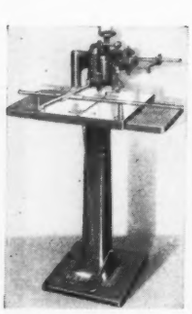

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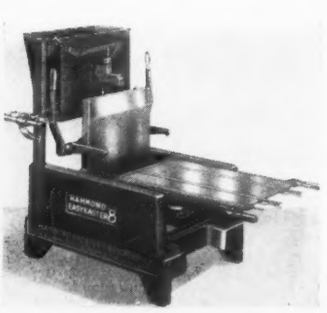

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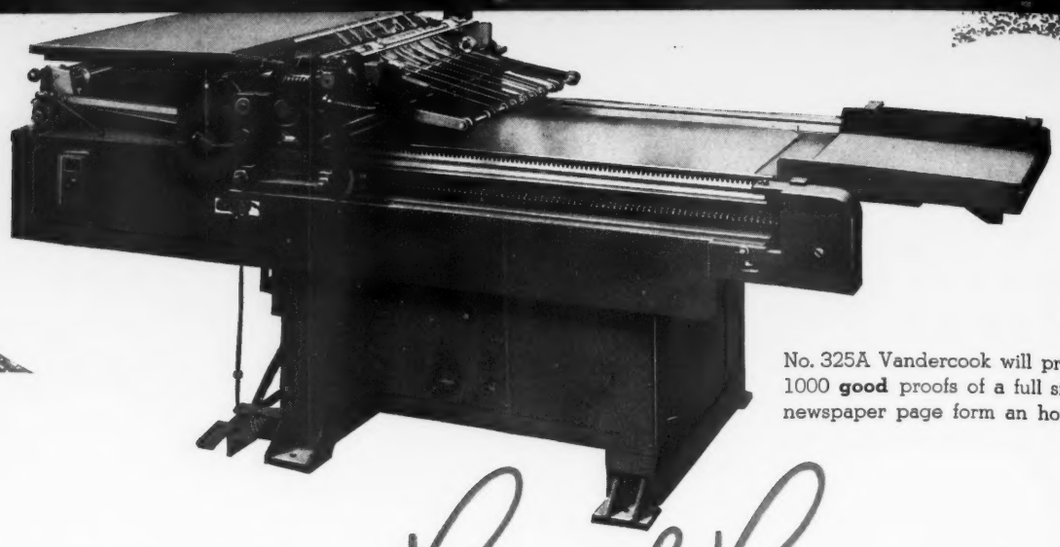
Wood Flong Corporation *Agency:* Metropolitan Advertising Company, New York, N. Y.	91
Wood Newspaper Machinery Corporation *Agency:* Fred Glen Small, New York, N. Y.	67



No. 325A Vandercook will print 1000 **good** proofs of a full size newspaper page form an hour.

VANDERCOOK *Proof Presses* F*ligh*

NO. 325A VANDERCOOK POWER PROOF PRES NEW

Advertisers' demands for more and better proofs in a hurry are responsible for the No. 325A Vandercook Power Proof Press which prints 1000 newspaper page proofs an hour.

The No. 325A Vandercook Power Proof Press meets the requirements of advertisers who want one or a hundred proofs. It economically supplies page proofs in quantity, of a quality equal to that of production presses.

The No. 325A Vandercook Power Proof Press has ample ink distribution for the heaviest forms. It is sturdily constructed, built to stand up under daily newspaper use. The No. 325A is simple and easy to operate. It takes a form 24"x24½" or a full newspaper page in stereotype chase.

The No. 325A Vandercook Power Proof Press has many exclusive features that make it unusually valuable in the newspaper proving department.

A circular giving details of construction and performance of the No. 325A Vandercook Power Proof Press will be sent at your request. A knowledge of the No. 325A Vandercook may be a great aid in working out your proving problems.

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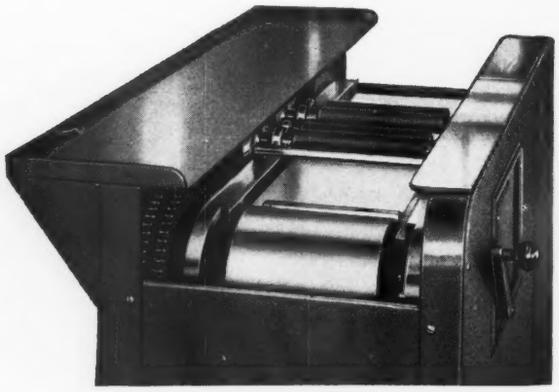

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No. 22 ELECTRIC PROOF PRESS

No. 22 and No. 23 Vandercook Electric Proof Presses are designed for producing 40 or more good proofs a minute, and due to their accessibility and convenience in feeding and changing forms, afford the fastest method of obtaining proofs of type and plates in galleys.

No. 22 Vandercook is used by many leading publishers for proving type matter in galleys as it comes from the machines. It will take a full three column ad or a form 8"x26".

No. 23 ELECTRIC PROOF PRES

No. 23 Vandercook will prove a full fiv column newspaper advertisement, a tabloi size page, or a form 14"x28". Smaller form may be proved with equal facility.

No. 22 and No. 23 Vandercook Electri Proof Presses reduce proving time to a mini mum. They give peak load capacity essentia to "first on the street" newspapers. Complet description showing exclusive Vandercook features will be mailed at your request.

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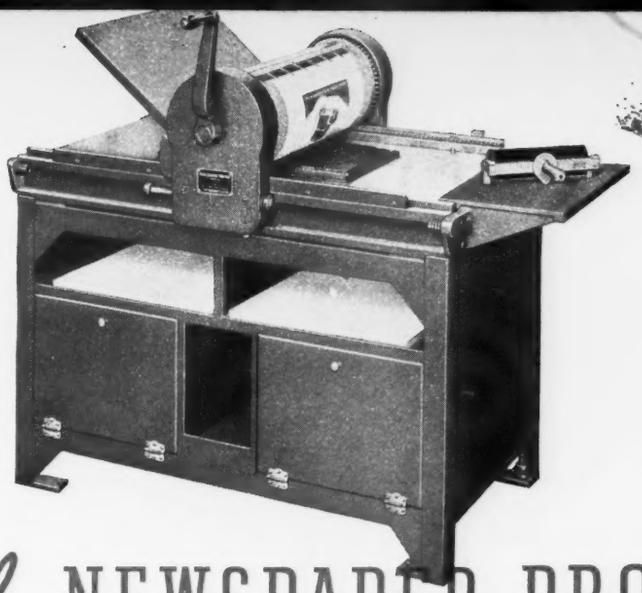
VANDERC

Main Office and Factory: 908 N. Kilpatrick Ave., Chi tern



No. 24 Vandercook has Grippers, Feed Board, and Side Guide. Printing quality is the best.

F*High Speed* NEWSPAPER PRODUCTION

NEW NO. 24 VANDERCOOK LOW COST PRECISION PROOF PRESS

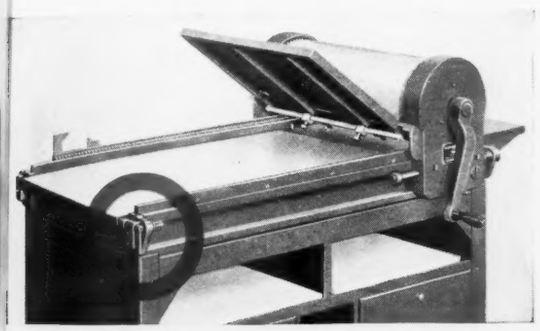
The New No. 24 Vandercook Proof Press is made for printers and publishers who have felt that they could not afford a **large size** precision proof press. It is guaranteed to print perfectly a halftone 23"x24". Equipped with grippers, feed board, and side guide, positive register is assured. It will take a full newspaper page in stereotype chase.

Impression equals that of the best photo-engravers' proof presses, making the No. 24 Vandercook the ideal, inexpensive press for checking forms, or for accurate premakeready.

The No. 24 is priced so low that it can profitably fit into the small composing room budget. It can serve well as auxiliary equipment in the large plant, with hardly noticeable investment.

The No. 24 Vandercook has many features found in no other low priced proof press. It may be equipped for the newspaper composing room. The little device in the circle regulates height of bed plate in order that forms may be transferred from trucks to press without turning trucks around.

Information on the New No. 24 Vandercook should interest production executives in newspaper and commercial plants. Write for circular just off the press.



A turn of the little device in the circle lowers press bed plate for sliding form from truck to press, and raises the bed plate for sliding from press to truck.

HACKER PLATE GAUGE

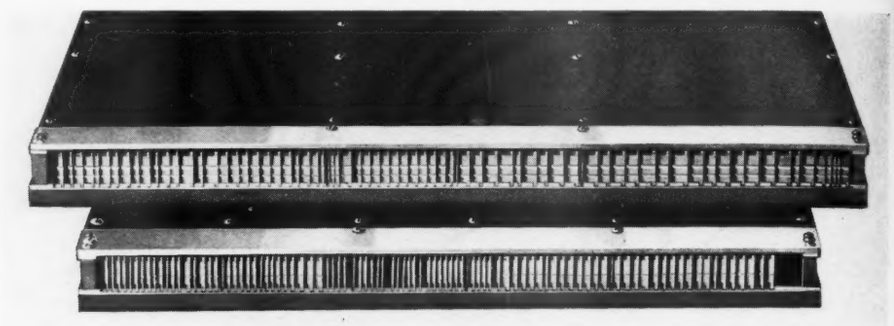
Measurements of curved and flat electros or stereotypes can be made quickly on Hacker Plate Gauge No. 8---and the **reading is easy.**

No figuring or special skill is required. Gauge is set to standard thickness and registers "0". Large indicator on dial shows **plus** or **minus** in thousandths. Readings are taken under pressure load of 200 lbs. for practical accuracy.

Complete details on the Hacker Plate Gauge will be sent upon request.

K & S O N S

Chicago Eastern Branch: 220 East 45th Street, New York City



Larger type sizes...larger economies...with

Intertype's wider magazines

The above picture shows two Intertype magazines—a standard 90-channel magazine and, above it, a wide 72-channel magazine. Both of these magazines have an extra-wide range which is worth special notice. • Intertype's 90-channel magazine is not confined in range to 14 point and thin 18 point faces. It carries full-width 18 point—without distortion of the cap M, cap W, or other wide characters. Even more important is the extra range of the Intertype wide 72-channel magazine. As the picture shows, this magazine is substantially wider than the 90-channel magazine—over two inches wider—with the result that it will carry full-width and undistorted 30 point faces. • For maximum flexibility in laying out matrix equipment—and for maximum range of type sizes which can be handled economically at full keyboard speed—standardize on modern Streamlined Intertypes.

AT TORONTO: A modern Eight-Magazine Streamlined Intertype can be seen in operation at the offices of the Toronto Type Foundry, 120 Wellington

INTERTYPE • Brooklyn

SET IN BETON BOLD AND EXTRA BOLD